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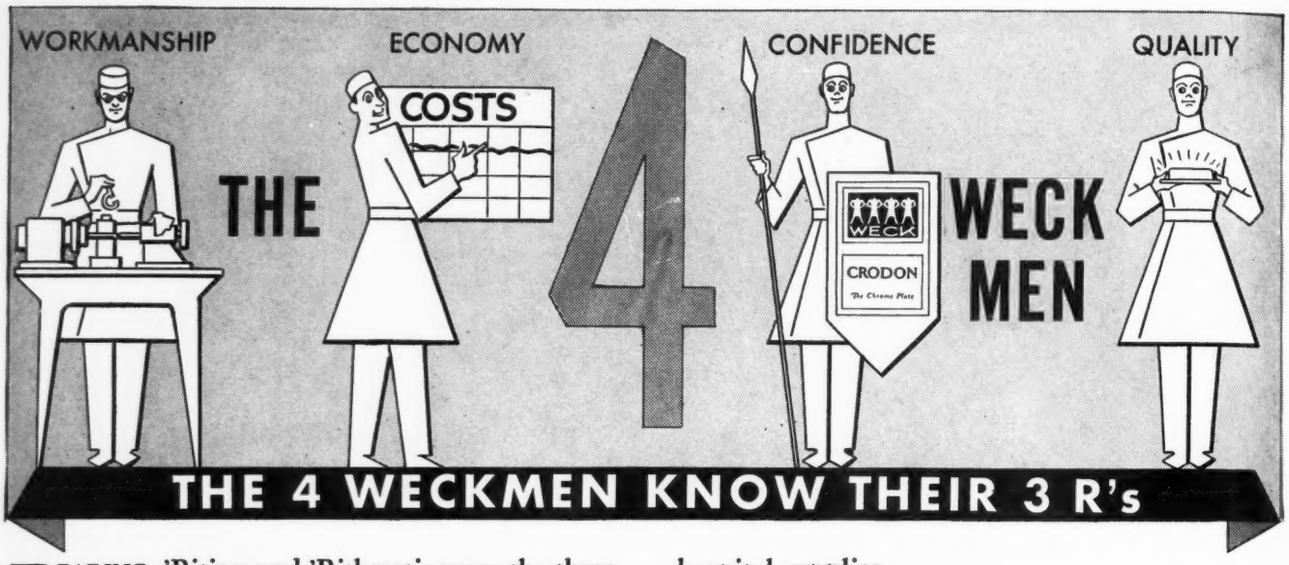
the MODERN HOSPITAL

VOLUME 58 FEBRUARY 1942 NUMBER 2



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Just in Passing—

IN AN endeavor to serve you with the latest and most authoritative information available, this issue of the magazine has been remade several times. You will find an important official document on protection of hospitals that was released so late that it was impossible to give it the conventional page numbers. Twenty-one pages of this issue, in addition to several important stories in the news section, are devoted to hospitals in the war effort.

Incidentally, this war section plus the intensive study of the Salem Hospital makes this one of the largest issues of The MODERN HOSPITAL since the 1929 depression.

The annual building and equipment number next month will bring you many important pieces of information. One will be a summary to date of the Washington situation and the effect of governmental controls and possible financial assistance on your plans for building. A group of hospital architects in all parts of the country have contributed their "pet" ideas to a special symposium on planning.

for BETTER STAFF WORK

Your department heads need information in this issue. You can call it to their attention easily with the coupon below. Just tear it out and paste or clip to the cover of the magazine.

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Return to.....

The Modern Hospital

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WITH THE Roving Reporter

Mention of Mildew

And who doesn't have to mention it occasionally, even though it isn't a subject for polite conversation! Of course, there is little chance of mildew attacking such articles as shower curtains if they are given generous sun baths. Should the sun refuse to shine, however, or what is more likely, should someone forget, there is still hope. Try giving the cloth a bath in good laundry soap, using enough soapy water to immerse it completely and adding 3 ounces of cadmium chloride to a gallon of water.

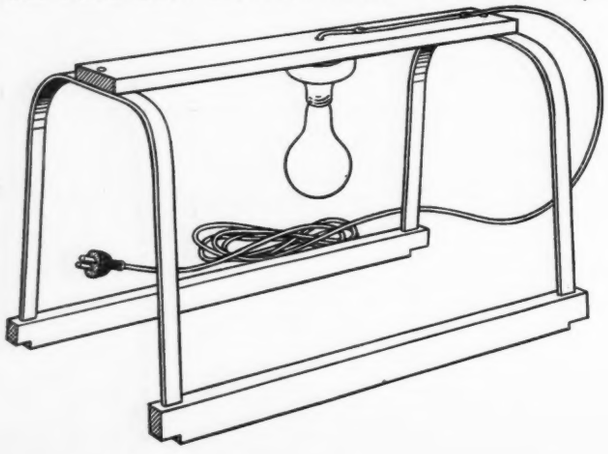
It seems that the Army and Navy experienced so much trouble with mildrew attacking tent cloths, tarpaulins and sandbags that they put the problem up to the Bureau of Home Economics. This was the answer.

Collapsible Cradle

Like city apartments, hospitals are always short on storage space. Contributing unduly to the general overcrowding of a storage area are cradles, essential pieces of equipment but nothing you can fold up and tuck away behind the door.

Or so we thought until we heard from Clare M. J. Wangen, director of the school of nursing and of nursing service at University Hospitals, Oklahoma City, Okla.

Irked over the amount of precious space required for cradle storage, our Oklahoma friends called in the house carpenter and presented their problem to him. He did some pondering, some sketching and some construction work. The sketch below shows the results.



The two curved end pieces are of metal and are attached to the three wooden cross bars by screws and nuts. The screws of the top wooden bar permit the metal end pieces to rotate, making it possible to collapse the frame so that it is flat when hung against the wall. If more than one light bulb is needed the socket is buried in the top bar. The light bulbs are, of course, removed before the frame is collapsed.

Ingenious, you must admit! Miss Wangen and other executives at University Hospitals are so enthusiastic over their collapsible cradle that they want everyone to know about it.

Makes Good Reading

Two pieces of recent hospital literature deserve attention because each in its own way deliberately aims to explain what hospital service means. The first is a handsomely printed booklet marking the 75th anniversary of Rochester General Hospital, Rochester, N. Y. Effective pictures tell the story, full page size accompanied by brief explanations of the work that goes on day and night in a building whose doors never close!

What attracted your Roving Reporter, however, were three words on a looseleaf page insert reading, "One Moment, Please." He read the four paragraphs that followed and was so impressed with the effective statement that he is quoting some of it:

"Many persons honestly believe that hospitals make money, have plenty of reserves or can easily get money if they need it. Many honestly believe that hospital trustees and staffs are paid for their services and that, all in all, hospital problems are simple ones.

"Yet a little reflection shows that this cannot be entirely true because periodically campaigns are held to raise funds to support community services and in first place is usually found the hospital appeal. In this era of 'astronomical spending' it seems a paradox that hospitals should want for anything. We vote billions for armaments and begrudge a few thousands for health. And yet 'a nation's wealth is its health,' and without health little else counts."

This One Lists "Needs"

The other bulletin is designed for a special audience, lawyers, no less, or others who might be inquiring about hospital needs when preparing a will or contemplating a donation of some sort.

In concise paragraphs this bulletin describes specific needs of Mount Sinai Hospital, New York, with their estimated costs. Anyone who would make a substantial contribution might be interested in reading about a new laboratory building available at a cost of $1,250,000. Other suggestions include a million volt x-ray machine for $50,000, a maternity pavilion for $1,000,000, a gymnasium for the nurses' residence for $50,000 or, possibly, free beds for adults and children ranging from $2500 to $7500. The explanation is made that whereas the full amount may be listed, smaller sums may be contributed to help make up the necessary total.

This booklet is an outgrowth of an earlier mimeographed presentation of hospital needs, which, according to Dr. Joseph Turner, director, apparently accomplished little until one day a $30,000 bequest was clearly traced to this modest effort. The special interest expressed by the testator was to be found nowhere but in this mimeographed announcement. Encouraged by this spirit, therefore, the board decided to print the same information in more elaborate form that it might be brought to the attention of selected attorneys and other potential friends.

Why wait for them to ask? Tell them! It sounds like sound reasoning, particularly these days.

LOOKING FORWARD

Salem Issue

THIS issue of The Modern Hospital is an innovation in hospital journalism. Almost the entire issue is devoted to a coordinated study of departments and activities of one "typical" hospital. The material was gathered largely at first hand by members of the editorial and photographic staffs of the magazine, who actually lived on the ground, talked with and watched the personnel at work, spent time with the women's auxiliary, trustees and citizens of the community and studied reports and records.

Of course, no hospital is precisely typical. Numerous other hospitals could have been chosen with equal appropriateness. Salem Hospital is a good one for the purpose because it serves and is supported by an average American community; it offers a well-rounded scope of service; it lives within a reasonable budget and chiefly from earned income; it is well managed; its recognition has been won by all round excellence, and it is somewhere near average size.

The descriptions are not "prettied." Faults and weaknesses are mentioned wherever found. The trustees, administration, medical staff and employes, all were frank and honest in making available pertinent facts.

Readers are invited to comment on the general idea of this case study. Does it contain sufficient value to justify the large investment of time and money?

Who Rides the Ambulance?

ALTHOUGH introduced as an emergency measure, the proposal to discontinue intern service on the ambulances of voluntary and municipal hospitals in New York City has significant implications. There are those who have persistently contended that the manning of ambulances by physicians constitutes a waste of time and professional service, that a knowledge of first aid is sufficient in a majority of instances and that too many calls are for medical attention in the home. Some would even infer that hospitals have found it expedient for financial reasons to use their interns for such service rather than to appoint those whose sole function it is to render first aid and, when necessary, to return the patient to the hospital for diagnosis and treatment.

Now, according to a recent statement made by Dr. Willard C. Rappleye, commissioner of hospitals, opportunity is to be afforded for evaluating the benefits of medical *vs.* nonmedical service. Approximately 250 male orderlies trained to administer first aid and emergency care are to take over the ambulance service in New York. These men, who are to relieve the interns, will be given a brief course of instruction, including two weeks' ambulance service under the department doctors. Ambulance drivers, too, will receive instructions in first aid. Doctor Rappleye emphasizes the fact that the new attendants will not treat cases requiring diagnosis or medical attention. Such cases will be taken promptly to the hospital.

Home Defense Comes First

HOME defense is the topic of the day. Whether our enemies strike from without or within they are there, awaiting the psychological moment to wreak their vengeance upon those who would not bow their heads in compliance. Far too cunning are they to attempt their visits of destruction when vigilance is keen.

The problem is one of keeping the public eye from growing weary, of keeping the public ear closed to those who would contest the need for such vigilance, of keeping public attention from wandering far afield. Those who speak from experience in other countries at war say that the difficulty does not lie altogether in supplying the individual with the necessary knowledge and equipment but in keeping him faithful to his trust.

This is particularly important as we embark upon a new year of conventions. As advantageous as it is to exchange thoughts with others, it must be remembered that in a country at war emergencies will arise and that it is the duty of every person to stand by his post no matter at what personal sacrifice. Home defense should be the first thought, even at the cost of cancellation or indefinite postponement of other ordinarily important engagements.

Practical Suggestions

EDWIN L. DEMUTH, M.D.

IN LONDON, 72 out of 78 hospitals have been damaged by bombs. We may soon be faced with the same situation. It took a declaration of war to awaken most American hospitals to the need for defense preparations. In April 1941, our hospital started active planning for possible war emergencies. We have endeavored to approach the problem from a practical viewpoint, eliminating as much administrative formality as possible. We consider it important to inconvenience as small a number of people and to change as few of our routine procedures as is consistent with efficiency.

The problem divides itself into two phases: (1) the defense of buildings and grounds, and (2) the medical and nursing care for our normal quota of patients plus sudden increases resulting from emergencies. We have 713 beds, with an average ward occupancy of 99 per cent, in our city institution, which is devoted exclusively to chronic diseases. Our 13 buildings cover 7 acres in a residential section near the northern periphery of New York City. The actual measures taken are listed below.

Defense of Buildings and Grounds

Organization of engine room crew.—Men who are on duty are assigned to their regular posts. Those who are off duty will report promptly to the engine room at the time of an alarm. They will form repair and demolition crews, which include electricians, carpenters, masons, tinsmiths and plumbers, all of whom will be under the direct supervision of the chief engineer or his assistant.

For smaller hospitals it may be wise to enlist the cooperation of local craftsmen to volunteer their services in time of emergency. Such workers should be familiarized with the routine of the hospital beforehand.

One man has been assigned to the highest roof to act as watcher during raids. A special telephone connection has been placed on the roof so that the watcher may notify the chief engineer, who, in turn, will dispatch repair crews as necessary. The watcher also must be on guard against illegal signaling and imperfections in our blackout. All personnel has been trained in the use of fire-fighting equipment.

A special engine room squad has been given more detailed instruction in the handling of fires and will be in direct charge of this service. We have the following types of fire extinguishers: (a) foamite, (b) carbon dioxide for oxygen fires, and (c) pyrene for electrical fires. We also have the regular hose connections, stirrup pumps for incendiary bombs, sand and, at least, one gas mask.

Protection of buildings.—Sand has been placed on each roof. It is kept in 25 pound burlap sacks so that it can be easily lifted. A waterproofed, noncorrosive material is preferable to burlap but is not so readily obtainable. If ash cans are available, it is wise to cover a number of these sacks with an inverted can in order to prevent freezing. We also have barrels of sand indoors at the entrance to each roof, with pails to ladle it out. Sandbags are being prepared to protect our boilers and, possibly, for use outside our main entrance and our emergency entrances.

Blackout Measures

Blackout paint is being applied to all skylights, to our green copper roofs and to our engine room windows. Incidentally, we have decided not to paint a red cross on our roof.

For blackout of windows we are relying on our ordinary dark green shades to cover the lower part of our windows. The transoms above will be completely blacked out with paint. We also anticipate putting a 4 to 6 inch border of black paint on our lower windows to minimize the escape of light around the shade. Our operating rooms are equipped with light-tight shades. We are building folding wooden shutters to protect the surgeons from glass fragments. This arrangement allows full use of daylight when there is no alarm but is too expensive for use on each of our 4000 windows.

We are painting our center ceiling lights blue, except for a small area on the bottom of the bulb. This gives a beam of yellow light directed straight down, which does not disperse as far as the windows. We have laid in a supply of coal-gas lamps (kerosene lanterns are a second choice), flashlights, and candles in glass containers. All of these are covered with blue paint or cellophane to dim the light; a generous supply has been distributed to each ward.

As an interim measure, before all the foregoing steps can be carried out, we are prepared to pull the main switch, thus cutting off all power, except to the elevators. Utter darkness is a hazard, but as a temporary precaution we prefer this method.

Light-locks are provided at each hospital entrance by two sets of doors, each of which has a shade over the glass part. All light bulbs in important places are being painted with blue lacquer.

Shattering of window panes is a serious problem. Taping of the glass is not considered efficient by the Office of Civilian Defense. We are experimenting with the use of old x-ray films, with the emulsion removed, applied directly to the glass. We are conserving all pieces of cardboard (not corrugated paper, which is spoiled if wet) to replace broken panes. Patients are instructed to cover their faces and hands with bedclothes; we do not have enough extra mattresses to put one on top of each patient. All beds will be moved away from the windows at the first alarm.

Inflammables, such as alcohol and paint, have been removed from our storerooms. They are placed either underground or in a separate shed built on the lawn. Hay and straw for our laboratory animals have likewise been removed to the lawn.

William J. Overton, supervising engineer of Montefiore Hospital, gave many valuable suggestions.

for Hospital Defense

Assistant Director, Montefiore Hospital for Chronic Diseases, New York

Jars of formaldehyde, used for pathology experiments, are being decentralized. If our present storeroom for these jars were damaged, the odor would be so strong that no one could enter the room and patients would be exposed to injurious fumes.

All bathtubs are kept filled with water at all times. Pails are also kept in the bathroom to ladle out the water for sanitary purposes or for fire fighting, as the occasion may demand.

During an alert the boiler furnaces will be stoked so that no tell-tale smoke issues from our stack. The exhaust steam will not be allowed to escape from the exhaust leader, adjacent to the smokestack, as this results in a white, feather-like appearance that can be seen for miles during the day.

Reserve Supplies

We manufacture our own direct current but purchase alternating current which is needed for x-ray and physical therapy machines.

Our present water supply comes entirely from the city. If water mains are damaged, this will be our most serious problem for both sanitary and fire-fighting purposes. We are securing estimates on digging a well on our grounds since we have reason to believe that there is a supply of water within fairly easy reach.

Each day we are saving all barrels which can be used for storing water. We are also saving tin cans (with rolled edges) for use in ladling out water or sand for fire fighting. Other barrels and crates of sturdy construction, as well as burlap bags, are serving us in good stead as sand containers.

We have installed a special 3000 gallon tank containing a reserve supply of water for the boilers. If necessary, we are prepared to haul water in any available container by truck from our country sanatorium, 30 miles distant. We realize that if any of this water is to be used for drinking purposes it will have to be boiled.

We purchased lumber to block up windows that might be blown out, to support ceilings and to build emergency sheds for storing supplies. Some 6000 board feet of ⅞ inch second grade lumber and 250 second grade 2 by 4 fir beams have been delivered. These are standard items which, if not used in an emergency, are useful at other times.

We have under consideration the use of boards to convert part of our stairways into ramps so as to allow patients to be slid downstairs in case this should be necessary.

A reserve cargo of coal was delivered to our country sanatorium, 30 miles distant. It is stored in the open with an estimated loss due to windage and pilferage of less than 2 per cent. Storing coal in our own yard would have required fencing or other guarding. Possibly, city hospitals could arrange with suburban hospitals for a joint purchase of coal to be stored at the latter institutions. This coal, like the lumber, is a stock item and, therefore, does not represent a special defense outlay.

We estimate that our kitchen facilities can carry an extra 25 per cent load without the purchase of new equipment.

Our laundry equipment, if run longer hours, will be able to take care of the added demands made by an emergency.

Medical and Nursing Care

When it comes to medical and nursing care for our present patients and expected casualties our general problems are as follows: (1) to care for our present population of approximately 700 chronic patients; (2) to be prepared, if necessary, to evacuate all chronic patients and convert the hospital to an acute service, and (3) to care for an undetermined number of casualties who will be brought to our hospital by neighbors or sent in by our own catastrophe squads. For this we plan to evacuate our surgical building, thus providing 33 beds for men and 33 for women. This building was chosen because the operating rooms are located there and because of the proximity to the out-patient department where casualties would first be treated.

We shall attempt to discharge as many of our chronic patients as possible; we may also have to discontinue new admissions. All our patients have been classified as being either ambulatory, chair ridden or bed ridden. This list is brought up to date at regular intervals. The present occupants of the surgical wards, if ambulatory, will be accommodated in our large social hall.

Anticipating the use of the social hall as a dormitory, we have moved 75 reserve beds and mattresses, with the necessary blankets and linens, from our storerooms to our chapel, which is adjacent to the social hall.

Organization of Personnel

In organizing our personnel the board of trustees has appointed a committee to consider defense matters and special appropriations. The cash outlay (not total cost) has been less than $500. This does not include labor. Nor does it include the equipment assigned to the catastrophe squads and casualty station, since this will revert to stock if not used.

The defense committee of the senior medical board has outlined general policies for emergencies.

All members of our attending staff have been circularized to determine how many are available to report to our hospital in time of emergency. Many have other, more accessible hospital connections and we have, therefore, asked specifically whether our hospital will be a primary obligation for them.

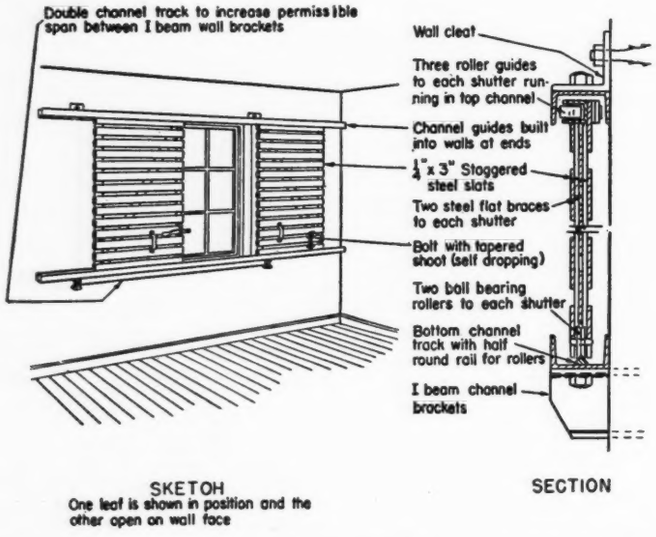
Our courtesy staff is small, but these men will also be requested to volunteer their services. Plans are likewise under way to get in touch with nonstaff physicians in the neighborhood whose services might be volunteered in an emergency.

Two catastrophe squads have been organized in accordance with instructions from the Office of Civilian Defense. Each squad consists of four doctors, (one of whom is the captain), four nurses and two orderlies.

In making these assignments, we have kept all members of the surgical house staff and the resident in roentgenology in the hospital, in the belief that their services are most needed in the operating rooms and the casualty station. A third squad is available to fill in possible vacancies. We have also assigned a sufficient number of doctors to cover our wards. All others are available for duty in additional catastrophe squads or in the hospital casualty station.

Members of our personnel living outside must be able to reach the hospital from their homes. To facilitate their arrival, all these persons have been made air raid wardens, assigned to the hospital.

We have received an ambulance from New York City as a loan for the duration of the emergency. Catastrophe squads are transported to the scene of the disaster in the ambulance and in private cars. At least one doctor in each squad can drive a car. We are relying on police, city hospitals and a private ambulance service which has volunteered its help to assist us in bringing patients from first-aid posts to the casualty station.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Channel guides built into walls at ends
¼" x 3" Staggered steel slats
Two steel flat braces to each shutter
Bolt with tapered shoot (self dropping)
Two ball bearing rollers to each shutter
Bottom channel track with half round rail for rollers
I beam channel brackets
SKETOH
One leaf is shown in position and the other open on wall face
SECTION

Protection of upper floor windows when blocking out is impracticable can be accomplished by fragment-resisting shutters on the inside wall face. The O.C.D. sketch shows a section view of a lightweight steel shutter with one half in the closed position and the other half open on the wall face.

Office workers, social service workers, admitting officers, occupational therapists and secretaries have been assigned to casualty stations to help with identification of casualties, notification of families, interviewing relatives and calming patients in the wards.

Extra telephone operators are always available. If necessary, we will use clerical workers as messengers.

Volunteers play an important part in an emergency if they are trained. We have organized classes for volunteers: first-aid and laboratory technics are being taught by our house staff and nursing procedures are being taught by our nursing department. We hope that future classes will be instructed by volunteers from the first group, so as to lighten the burden on our own nursing supervisors. We must realize, however, that many volunteers will be forced to stay at home during a catastrophe.

Operation of System

If we are warned that a raid is expected, we will try to get in touch with all essential personnel not in the building at that time. When we are notified by the police or the army signal device that we should be prepared to receive casualties, the assistant director will order the engineer to ring 3-3-3 on the fire alarm system. Notices throughout the hospital have already informed all persons that this is the catastrophe call.

All employes off duty are to report to their usual posts. Those on the wards will try to calm the patients. We intend to play musical records on the intramural radio system (each patient has earphones at his bedside); beds are to be moved from the windows to the center of the wards; shades are to be drawn if it is dark outside; ambulatory patients are to go to the social hall as assigned.

The doctors, nurses and orderlies assigned to the catastrophe squads will report to the ambulance entrance. Special lockers have been provided there for coats, hats, gloves and rubbers of members of the squads. The kits and laundry bags are stored here also; the keys are kept in the nursing office.

The personnel assigned to the casualty station in the out-patient department will prepare to receive patients. There are separate entrances for ambulatory and stretcher cases. Besides individual examination booths, drugs and instruments, hot coffee and cigarets will be provided. A tilt-table fluoroscope will be set up in the out-patient department where alternating current will be made available. A special plaster room will be arranged for fracture cases; anesthetists will be assigned to work there along with the orthopedists.

There is equipment for sterilizing instruments to be sent out again to the first-aid posts. Emergency blood typing facilities will be on hand; our personnel and some of our hypertensive patients are being typed in case of need.

Lectures are being given by various attending doctors to the entire house staff, plus the nurses and orderlies, assigned to special casualty duties.

Good morale for both patients and employes is of vital importance. Each man and woman will be assigned a post and each one will be trained to do his job and do it well. Patients have already contributed much to the defense effort as part of their occupational therapy in the form of making bandages, padding splints and doing clerical work. Our employes, both professional and nonprofessional, have all unqualifiedly offered their services.

Equipment and organization are only part of the problem; good morale and conscientious service are equally, if not more, important. We don't expect to be bombed; but if it happens, we're ready—physically and psychologically.

War Measures in a 55 Bed Hospital

A. A. AITA
San Antonio Community Hospital, San Antonio, Calif.

WE BEGAN war preparations in earnest on Monday, December 8. The first thing was to prepare for fire from incendiary bombs. With our engineer, we organized a fire squad composed of the boys in the laundry and kitchen as well as the floor boys. They were first taught how to extinguish an incendiary bomb. Then we placed the regulation sand bags half filled with dry sand at salient points on the roof. These bags, three at each point, are on small platforms so they will keep dry and will not injure the roof.

Ladders are easily available and long sections of garden hose are left attached to hydrants in the yard so that almost any portion of the building can be reached. Additional fire extinguishers were immediately purchased and placed at important points in the institution.

Can Empty Building Quickly

Instructions were given as to the removal of patients from rooms. In this hospital this is relatively easy as compared with some other institutions inasmuch as this is a one story structure and all of the doors are large enough to permit easy removal of beds. Our hospital was originally built in the form of a cross, but since additions have been added two "U's" have been formed with this cross and the hospital sprawls out over almost three acres of ground. There is a fire exit at the end of each of the wings and also at the middle of one of the "U's" and all of the patients can be removed from the building within ten minutes.

Our next step was to decentralize the surgery, laboratory, x-ray, pharmacy and dietary departments so that we could carry on in the event that any of these departments were put out of commission. Auxiliary lights have been placed in both surgeries and in the emergency room; instruments and supplies have been so decentralized that we could, if necessary, carry on three major surgical procedures at one time even if the electric current were cut off. A four days' supply of those foods that require little preparation is kept on hand in case of disruption of our utilities and we are now installing a portable charcoal stove so that we can cook in case of disruption of both power and gas.

Sulphathiazole powder placed in sterile convenient shaker bottles is stationed in all of the wings of the hospital as are intravenous solutions and prophylactic and tetanus gas gangrene antitoxin.

After these measures had been taken, we called a compulsory meeting of the entire personnel and explained the hospitals' rôle in wartime. We emphasized that hospitals are one of our first lines of defense. We explained that, to give the twenty-four hour service that our government rightfully expects, every person was now being given a twenty-four hour detail and was subject to call at any time.

In case of an air raid each person would be expected to report immediately to the hospital. Some of the duties assigned were fire prevention, first aid, traffic, blackout, admissions and policing. The nurses, technicians, pharmacists, dietitian and nurses' aids were to assume their usual duties plus any additional work necessary.

Identification Cards Bear Photos

The next day all of our employes were photographed and given identification cards so as to facilitate their passing through guard lines. A mimeographed sheet of instructions was handed to each employe.

Our private rooms are large enough to accommodate two beds easily and our reception room and nurses' dining room could readily be converted into wards making space for an additional 50 beds without cluttering the corridors. This would nearly double our capacity. An appeal was made to the Girl Scouts for 50 cots and mattresses and within forty-eight hours they were delivered to us.

We told the president of our women's auxiliary that we needed 100 blankets, 50 pillows, 100 pillow cases, 150 sheets and 100 hot water bottles. This request met with extraordinary enthusiasm and our quota has almost been reached. We are marking all of these borrowed articles to facilitate their return.

We asked the football coach of our junior college for donors to increase our plasma supply; this met with an immediate favorable response. We are now typing donors for transfusion purposes and by the end of the month (January) this list should be in excess of 200.

Using Cellophane for Blackouts

The windows of the surgery, emergency, progress and delivery rooms have been equipped with the new cellophane blackout material, which can be rolled up when not in use. This material is readily available and relatively cheap. All of our patients' rooms, including wards, have venetian blinds. When these are closed and when the window of the lavatory is blacked out and the lavatory door left ajar ¾ inch with the light on, these rooms are fairly well lighted and at the same time the blackout is effective. Flashlights are placed throughout the hospital.

In our new wing, we have small louver night lights near the floor under the head of each bed as well as in the corridor. With the venetian blinds closed, these afford satisfactory illumination as well as a good blackout. In case more light is needed than this during a blackout the cellophane material is attached over the windows with adhesive plaster, in one big strip sewed together to fit the window.

We preach economy and prevention of waste in every department as one of the many ways we can help win this war. We have not forgotten that we, as good Americans, should buy defense stamps and bonds and we are glad to report that, during the month of December, our 56 employes purchased in excess of $2500 worth.

Safe and Sane Defense

By EDWARD BERNECKER, M.D.
as told to RAYMOND P. SLOAN

What New York hospitals are doing in the way of defense preparations is summarized here in an interview with the chief of the emergency medical service, Department of Hospitals, New York City

HOSPITALS of New York City are ready for whatever may happen. The wholehearted cooperation manifested by both voluntary and city institutions in organizing for defense has contributed to a situation that assures adequate protection to citizens of the metropolitan area. If an emergency were to arise at this very moment 2000 cases, at least, could be accommodated and as the work of organization proceeds with surveys of existing facilities completed and greater coordination of various defense units accomplished this number will reach 5000 and more.

Approximately 80 city and voluntary hospitals now have emergency medical field units made up of squads of doctors, nurses, orderlies and nurses' aids. These vary in size, depending upon the size of the hospital, from two each, *i. e.* two doctors, two nurses, two orderlies or nurses' aids, to squads of fours and even eights, comprising a corresponding number of doctors, nurses and orderlies.

These units are directed to predetermined spots somewhere near the scene of the disaster where they operate as casualty stations for the treatment of minor injuries, minor shocks and hysteria. The station may be in the hospital's own outpatient department, in a school basement, in a firehouse or in a health center. The purpose is to keep as many people as possible out of the hospital.

From these casualty stations teams of doctors, nurses and orderlies or nurses' aids are broken down and sent to the immediate scene of the accident to care for the seriously injured. To them falls the responsibility of determining which cases should be dispatched to the hospitals or which can be handled at the casualty stations.

One of the biggest problems facing hospitals in the New York area at this time is the realignment of their staffs made necessary by the increasing demands of the government upon the medical profession. With the ruling that interns will be required to complete only one year of training and with the practical elimination of residents, new responsibilities will fall upon members of attending staffs. It is likely that staff members that have retired recently because of age may be called back to duty and that an increasing amount of service will be expected of the younger men.

Another readjustment that hospitals must make is the elimination of intern service on ambulances and the substitution of orderlies especially trained for such work. In preparation for this change, which goes into effect February 1, courses are now being given for those possessing the necessary qualifications, with attending surgeons doing the teaching. Every precaution is being taken to ensure either the driver or the attendant being a qualified emergency first aider.

It is within reason to believe that certain services performed by doctors will be delegated to graduate nurses and that other duties previously performed by nurses will become the responsibility of voluntary nursing aids, constituting a general stepping up in the program.

A big recruiting campaign for nurses has been under way for some time, sponsored by the Department of Hospitals, in which advertisements are being inserted in newspapers and magazines, speakers are appearing before high school groups and contacts are being made with vocational guides. It is too early yet to venture any opinion on the results.

In the meanwhile, the work of preparing volunteers as nursing aids continues. Some 39 city and voluntary hospitals are serving as educational centers for this work and it is safe to estimate that 1000 trained women are available now. The quota calls for approximately 10,000.

"Safe and sane defense" is a slogan that might well be observed by every institution. It is not recommended that hospitals should go to extremes in preparing themselves for possible air raids or disaster from sabotage. On the other hand, certain fundamentals should be observed.

The municipal hospitals and many voluntary hospitals of the city have surveyed the situation carefully and have acted accordingly. While obviously ridiculous at this time to abandon the use of operating rooms on top floors, it would be equally foolish not to protect all skylights adequately. Every hospital should provide itself with an emergency operating room lower down in the building or on the first floor. It would be well to rearrange space allotments wherever possible to provide ward facilities adjoining these emergency operating rooms. A nurses' or employes' dining room might be adapted to such purpose. Admitting and emergency divisions should likewise be carefully designed for blackout exigencies.

These are times when every administrator should know his institution as he has never known it before. Such information as he heretofore depended upon his chief engineer and other department heads to supply him, he should now carry in his own head. And as executive officer in charge, he should be ready for call at any time.

Doctor Bernecker is chief of the Emergency Medical Service, Department of Hospitals, New York City.

PROTECTION *from* AIR RAIDS

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Official Bulletin of the Office of Civilian Defense

Foreword

THIS publication has been prepared by a joint committee of the council on hospital planning of the American Hospital Association and the medical division of the U. S. Office of Civilian Defense. The committee included Dr. Robin C. Buerki, Philadelphia, and Dr. Asabel J. Hockett, New Orleans, as co-chairmen; Dr. Willard C. Rappleye, New York; Dr. Anthony J. J. Rourke, San Francisco; Dr. Joseph Turner, New York, and Dr. Huntington Williams, Baltimore.

Dr. James M. Mackintosh, former chief medical officer of the Scottish Department of Health, served as consultant. (The protective measures recommended are presented for adoption by state and local civilian defense councils.) Revisions of these recommendations may be issued from time to time as new developments make them necessary.

The attention of hospital administrators and chiefs of staff is directed to the fact that all hospitals in cities exposed to enemy action are part of the emergency medical service of the local and state defense councils and participate in the civilian defense program under the direction of the chief of emergency medical service as integral segments of a comprehensive plan for the care of casualties. Hospital administrators should, therefore, acquaint themselves with the contents of Medical Division Bulletins Nos. 1 and 2 on "Emergency Medical Service for Civilian Defense" and "Equipment and Operation of Emergency Medical Field Units."

The installation of protective devices in hospitals is essential because the damage that might result in air raids to unprotected hospitals, combined with a heavy casualty load, might result in the collapse of the medical services. In a recent letter Brig. Gen. L. D. Gasser, U. S. Army, War Department, member of the board for civilian protection, said:

"From a practical standpoint, the installation of expensive protection procedures should not be undertaken except under conditions in which frequent or continuous bombing can be expected.

"The military situation today does not justify any such contingency. This does not preclude the desirability in the interest of preparedness of preparing plans so that they could be placed into operation very promptly and in an orderly manner in case of need."

The instructions within this publication cover the general principles of procedure to be observed in planning for the protection of hospitals. Regional civilian defense authorities in all parts of the country are in close touch with corps area commanders with reference to the military situation and will appraise the local civilian defense authorities as to the need for immediate installation of the protective measures discussed herein.

The **Citizens Defense Corps** is composed of various groups of enrolled members whose functions are as follows:

1. **Air Raid Wardens** are the guardians of their district who integrate within their jurisdiction all of the protective services and serve as a general supervisor of each.

2. **Fire Watchers** are located at points of vantage to detect and extinguish incipient fires started by incendiary bombs.

3. **Rescue Squads** are groups of highly trained and especially equipped men whose function is the extrication of casualties from collapsed or demolished buildings and other points of special danger.

4. **Repair Squads** are groups trained and equipped to repair damage to essential services within the community.

5. **Emergency Medical Field Units** are groups under the leadership of doctors for the administration of essential first-aid casualties.

6. **Demolition Squads** are crews trained and equipped to wreck unsafe buildings or walls to reduce the hazard of their falling.

7. **Decontamination Squads** are trained and equipped to decontaminate areas that have been exposed to persistent gas.

8. **Emergency Food and Housing Services** arrange for temporary food and shelter for victims rendered homeless or destitute.

To integrate the activities of the various protective services, a central administrative unit has been established called the **Control Center.** Large cities and metropolitan areas are divided into districts and the administrative responsibilities of the control center have been decentralized by the creation of a district control center to govern activities within its district.

The protective services are set up to function as follows:

1. Military establishments within the area will notify the control center of the approach of hostile aircraft. The control center relays this information to the district control centers.

2. The district control center makes the necessary arrangements to introduce the blackout and places the various units in the protective service on the alert.

3. If bombs fall the air raid warden notifies the district control center of the place and extent of damage giving the approximate number of casualties.

4. The district control center directs an appropriate number of rescue squads and emergency medical field units (and other units as necessary, such as demolition squads and fire fighting units) to proceed to the scene of the incident to carry out their various functions.

5. Casualties, following emergency care at the scene, will be dispatched to hospitals within the district.

6. When a hospital within the district has received a capacity load it will inform the district control center of this fact. The district control center will then direct that casualties be routed to other hospitals within the district until such time as they, too, have reached capacity.

7. When all of the hospitals within a district are filled to capacity the district control center will communicate this fact to the main control center, which will direct that casualties be routed to specific hospitals in some other district.

8. All other protective services will act similarly, *i.e.* so long as the district is self-sufficient it will operate

as a separate unit but when outside help is necessary it may be obtained from other districts by calling upon the main control center.

While movements of the various units of the protective services may be controlled by a single administrative group, it is important that by frequent field practices the operating integration of the services be worked out. It is, therefore, urged that emergency medical field units participate in such exercises as frequently as possible.

GEORGE BAEHR, M.D.
Chief Medical Officer

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Protection of Building Fabric, Patients and Personnel

IN ESTIMATING the possibility of damage to a hospital, the industrial, military, transportation and administration centers near it must be taken into consideration, as well as the number of searchlights, anti-aircraft guns and other defensive weapons in the immediate vicinity. In considering to what extent the facilities of a hospital may be employed during an incident, these various factors as well as the population density should be carefully weighed.

It is not practical to install in hospital buildings protective devices that would withstand the effects of a direct hit by a high explosive bomb. However, considerable protection may be given in some types of buildings without resorting to major structural change and it is this type of protection with which we are concerned.

Buildings with a continuity of structure are least likely to be damaged. Steel buildings are most resistant to blast and, in addition, are resistant to splinters and fragments. In buildings of reenforced concrete, damage resulting from high explosive bombs is usually local. Such buildings are especially safe from a standpoint of fire resistance. Wooden buildings are moderately resistant to blast but give little protection to splinters and are unsafe because they can not be made fire resistant. Buildings carried on walls of brick and concrete blocks cannot be made safe except by major structural changes. No hospital building should be abandoned for structural reasons unless it is built entirely of wood and is a hazard even in peacetime.

If services can be concentrated on the third floor or above, there will be considerable protection against splinters from high explosive bombs striking the ground near by and the danger of contamination by poisoned gas is reduced to a minimum. There should be at least two floors above the point of concentration of essential services to provide protection should explosive or incendiary bombs land on the roof. In less towering institutions in which the number of floors in the upper portions of the building is insufficient for adequate protection, a moderate amount of safety for the housing of essential services may be obtained on lower floors in well-framed buildings without major structural changes.

Sandbagging, when properly carried out, gives substantial protection but the expense of upkeep is considerable. This measure should be regarded as a temporary expedient to be replaced soon by a more permanent reenforcement.

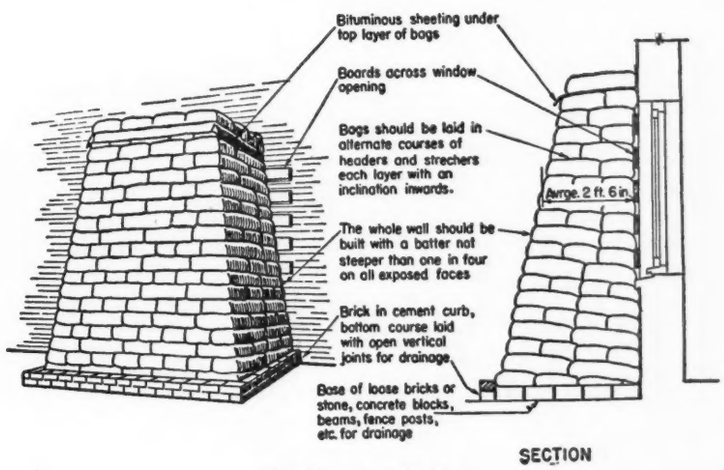
A great deal can be done to protect basements and even ground floors. The greatest danger is collapse of the building or the fall of heavy debris through the floors. It is generally necessary to strengthen the ceilings of basements (and ground floors, if feasible) to support debris loads that may fall upon them. British and German specifications require strengthening to carry a load of from 200 to 400 pounds per square foot in masonry buildings. This is commonly obtained by the installation of tubular steel or timber struts to carry the additional weight. In hospitals of less than three stories in height, the essential services should be housed in the basement. Basements offer the greatest protection from blast and splinters but are susceptible to earth shock. Because of the danger of transmission of earth shock a barricade should be built a foot away from the basement wall to keep persons and objects from coming in contact with a wall. Such a barricade can be made of chicken wire. Basements are further liable to the risks of flooding from fractured sewers or water mains and the accumulation of war gases. The steam, water and gas pipes that traverse basements introduce obvious risks.

In basements protection against blast and splinters is best secured by removing windows and blocking up their openings by brick work. Adequate ventilation and lighting must be provided.

The ground floor cannot be so fully protected because of its exposed position. It is recommended that each window be permanently occluded to a height of 6½ feet from the floor. A window pane above this level may be protected by lowering the window below the point of permanent occlusion or by replacing the glass with a glass substitute. It may be partially protected by wooden shutters 2 or 3 inches thick; these reduce the danger from blast but will not prevent damage by bomb splinters.

On the other floors there are two principal protection problems: (1) fire prevention, to be dealt with in a later section and (2) protection of patients against the dangers of shattered glass.

NOTE: Bags should be three quarters filled, the necks turned under the bag and placed inside the wall, the bags being tamped into place with a mallet or piece of wood. Seams should be placed inwards as far as possible.


Bituminous sheeting under top layer of bags
Boards across window opening
Bags should be laid in alternate courses of headers and strechers each layer with an inclination inwards.
Avrge. 2 ft. 6 in.
The whole wall should be built with a batter not steeper than one in four on all exposed faces
Brick in cement curb, bottom course laid with open vertical joints for drainage
Base of loose bricks or stone, concrete blocks, beams, fence posts, etc. for drainage
SECTION

Sandbag barricade.

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Protection of Glass

THE only really safe way to avoid the risk of shattered glass is to remove windows and other glass structures. This is feasible in some cases to a limited extent. Cubicle walls made of glass should be removed and replaced by screens. Other glass structures in obviously dangerous positions should be replaced when possible by wood or plywood.

Windows on lower floors can, as previously indicated, be protected by obstructing openings to a height of 6½ feet and inserting a glass substitute in the sash. Permanent obscuration in patients' rooms and wards is contraindicated because of the therapeutic need for good light.

It is important that all glass should be removed from skylights and domes; occasionally, this involves a major structural change and cannot be carried out at reasonable cost. In such cases the well leading to the dome should be boarded over in such a way as to minimize the danger of falling glass. In addition, to protect against the elements, the glass should receive the fabric-bitumen treatment to be discussed later. It is impractical to protect large plate glass windows. The glass may be removed and the opening closed with wood in which is incorporated one or more small windows of glass or a glass substitute according to the lighting requirements.

Most of the plans suggested for preventing the splintering of glass have been found unsatisfactory for use in hospitals. Criss-crossing glass with strips of paper, tape or gauze or covering the entire pane with transparent paper will not prevent its shattering.

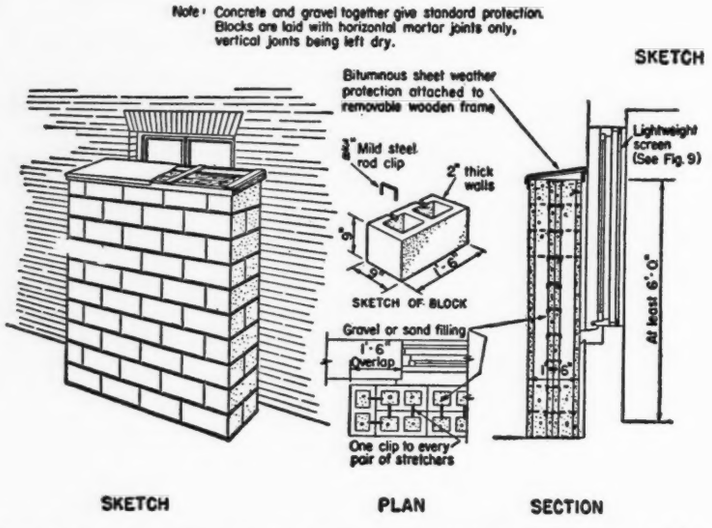

Note: Concrete and gravel together give standard protection. Blocks are laid with horizontal mortar joints only, vertical joints being left dry.
SKETCH
Bituminous sheet weather protection attached to removable wooden frame
Mild steel rod clip
2" thick walls
Lightweight screen (See Fig. 9)
At least 6'-0"
SKETCH OF BLOCK
Gravel or sand filling
1'-6" Overlap
One clip to every pair of stretchers
SKETCH
PLAN
SECTION

Fig. 2—Partial obscuration of windows; this is permanent construction.

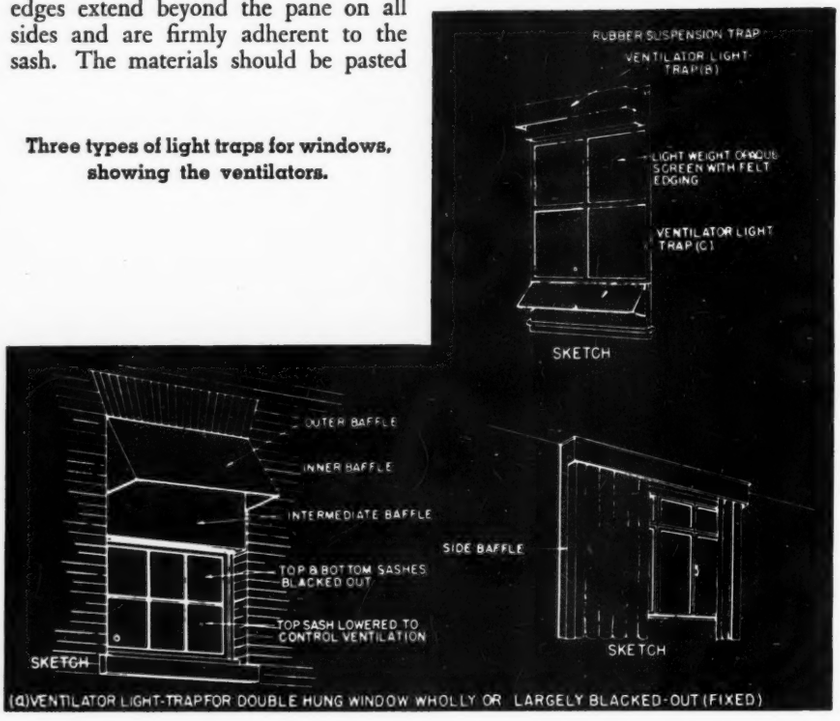
Although the fracture of glass cannot be prevented, various means can be adopted to reduce the danger of flying splinters. One effective method consists of glueing a sheet of muslin or pieces of net curtains to the inside surface of the pane. The net or muslin should be large enough and so applied that its edges extend beyond the pane on all sides and are firmly adherent to the sash. The materials should be pasted on with colorless glue or flour paste with 5 per cent glycerine added and should be subsequently varnished. The varnish needs renewal every three months.

Glass should be further protected by chicken wire mesh not larger than ½ inch to prevent flying splinters. The mesh should be installed as close as possible to the inside surface of the glass. If attached to the window frame the wire will prevent cleaning or reapplication of the treatments outlined above. The netting is, therefore, best attached to a separate frame fitted snugly against the window.

When windows have been broken by blasts or projectiles, they may be replaced temporarily by light weight screens of plywood, building paper or wall board, which will serve to maintain the blackout and protect against the elements. The installation of a glass substitute to replace fractured windows will give the best permanent results. When this is not feasible, part of the window may be replaced by glass or a glass substitute and the remainder filled with wood. The darkening of windows has a bad psychological effect on patients and whatever method of glass protection is adopted it is of great importance that windows in wards and patients' rooms be capable of being opened during the daylight hours.

Bitumen treated fabrics applied to the *outside* of windows and skylights when permanent obscuration is feasible

Three types of light traps for windows, showing the ventilators.



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will maintain obscuration in the event the glazing is fractured and will, in addition, prevent the scattering of glass fragments (except for small flakes). When used with wired glass or in conjunction with wire mesh close to the inside surface of the glass or wood or metal battens touching the glass, weather protection is permanent. Applications to skylights of bitumen treated fabrics are equally effective. The methods of application and specification for material are given in the appendix which appears on page xvi.

Ventilation

ADEQUATE ventilation during the whole twenty-four hours of the day must be secured by some means because of its therapeutic importance. In the obscuration or replacement of windows careful thought must be given to this subject. Ordinarily, the air volume on the hospital ward should be changed at least six times an hour and in hot weather more frequently. There are several methods by which this end may be achieved, but mechanical devices may be necessary.

Suitable types of light traps for hospital windows are illustrated on the opposite page. These can be used whether glass is retained or replaced by a substitute. In a large ward, however, it is probable that natural ventilation of this kind will be insufficient to maintain the correct number of air changes. Some restriction of flow, probably as much as 50 per cent, is unavoidable, for ventilators of this kind lose a great deal by friction and give rise to eddy currents. The most satisfactory and simplest method of obtaining additional ventilation is to install a large electric exhaust fan in one of the window openings from which the glass has been removed.

The air inlet to the exhaust fan must be suitably protected with a light lock, designed so as not to render the fan ineffective because of friction.

In basements in which windows have to be blocked up entirely, mechanical means of providing adequate ventilation must be relied upon entirely. In especially constructed operating rooms the adoption of an air conditioning apparatus should be considered.

Protection Against Fire

EACH hospital should develop an organization of fire watchers and auxiliary firemen competent to deal with any emergency except a major conflagration. Such a group should be so organized and trained that it can work not only as a group but also as individuals so that separate fires may be attacked as soon as discovered. Local fire officials, many of whom have received training in fighting fires caused by incendiary bombs, should be consulted in the organization and training plans of the hospital fire-fighting staff.

A group leader responsible for training and activities should be in charge of the hospital auxiliary fire force. The leader should receive thorough training from the local fire department in methods of combating incipient fires. He, in turn, will train the auxiliary force of the hospital and select the stations to which its members are to report at the sounding of an air raid alarm. Fire watchers' posts should be established in such numbers and locations that all sections of the hospital are under observation and will have adequate (first-aid) fire protection. Particular attention should be given to attic or loft areas.

The unit leader should instruct all employes as to the fire alarm system and evacuation drill. He should instruct members of the fire-fighting force in the methods of handling a hose line. When chemical extinguishers are employed, their care and use should be explained and drills in their use conducted. The unit leaders should be responsible for making regular inspection of attics, basements, wards, and storage places in order to see that unnecessary accumulations of combustibles are removed and that exits are kept open.

Hospital records, though valuable, are a source of danger from the standpoint of fire. They should be transferred to a place of storage away from the building, especially if they occupy space in the basement that is needed during wartime for other purposes. X-ray films are inflammable though they may not support combustion. Those not needed should be destroyed and the remainder removed to a place of storage at a safe distance from other buildings. Storage of gasoline, ether, alcohol and other highly inflammable chemicals should be given attention.

Special attention should be directed to the attic and upper floors of the hospital building to render them as fire resistant as possible. Several noncombustible materials have been tested for resistance against burning and heat from incendiary bombs. These can be used in loose or granular form to cover existing wood flooring or in sheet form to cover or replace it. Materials giving protection against burning by the 2 pound magnesium incendiary bomb are listed in the accompanying table.

These substances may be spread over the attic floor or other joist areas with a layer of ordinary chicken wire on a frame placed above the material. Whatever material is used, care should be taken to ensure that the building will stand the added weight. Interior parts of the roof structure, walls and joists may be covered with a fire-resistant plaster as an added precaution. A coat of whitewash is of value. If the building will stand the additional weight, a 2 inch layer of sand or other material should be put on a flat roof. It should be remembered that these loose materials will blow or wash away and increase in weight owing to absorption of water.

All areas in which incendiary bombs may have to be combated should be made readily accessible. Two or more

Materials Giving Protection Against 2 Pound Magnesium Incendiary Bomb

Material	*Minimum Layer Inch*	*Wt. per Sq. Ft. Lb.*
Dry sand	1¾	13.5
Brick dust	1½	9.5
Slate dust	1¼	5.0
Foamed slag (ground)	2	5.5
Boilerhouse ash	1¾	6.0
Limestone* screenings (passing ⅛ inch screen)	1¼	10.0
Concrete (including cinder concrete)	1	12 or less

*Carbonates stimulate the burning of magnesium and are not suitable for use in a removal bucket. They can, however, be used as a protective layer.

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means of ready access should be available to attics and to roofs on which small incendiary bombs might come to rest. This applies particularly to flat roofs or to sloped roofs with parapet walls against which a bomb deflected by the roof might lodge. Doors or passageways should be cut through all blind partitions to allow access to every square foot of area. When partitions serve as fire cutoffs these openings should be protected by fire-resistant doors.

If it is necessary to store material in the upper floors of the building, it should be so arranged that a clear aisle or passageway sufficiently wide to accommodate portable fire-fighting equipment extends the length of the building with numerous cross-passages or transverse aisles. The hospital should supply itself with fire-fighting equipment, which should be frequently inspected to ensure its constant readiness for use. The following items of equipment are recommended.

1. Twelve quart buckets of water and sand to be distributed throughout the hospital at each fire watcher post and each station for auxiliary firemen.

2. Water extinguishers of the pump-can tank type to be located at each fire watcher station and post for auxiliary firemen. These pump-tank extinguishers should be equipped with at least 12 feet of hose and a nozzle that will provide both a spray and a solid stream.

3. A garden hose equipped with quick coupling connectors to fit domestic faucets to be located at those stations which are near faucet outlets.

4. A long handled, square-nosed shovel to be located at each fire watcher station and at a majority of the auxiliary fire fighter posts.

5. While not absolutely essential, heavy gloves and a face protector or protective goggles to be provided for each fire fighter.

6. A flashlight for each fire watcher.

7. Fire axes to be located at readily accessible points throughout the hospital and several at fire watchers' stations on the roof.

Reports of British experience indicate that sprinkler systems are effective in dealing with fires started by incendiary bombs. If a sprinkler system has been installed it should be maintained in good condition but should not be relied upon to the exclusion of other methods of fire fighting.

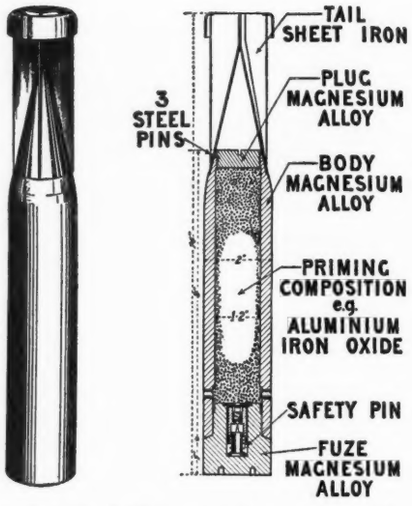
BACK-PACK TYPE WATER-PUMP CAN

Pump-tank extinguishers should be located at each fire watcher station.

Incendiary Bombs

Magnesium Alloy Bombs—The magnesium alloy type of incendiary consists of a magnesium-aluminum alloy tube or case that contains a priming mixture, usually thermit. The priming mixture melts and ignites the magnesium case which burns at a temperature of about 2400° F. These bombs vary in size from about 2 to 50 pounds. The 2 pound variety is most commonly used at present. They are designed to ignite upon impact. The bomb is about 9 inches long and 2 inches in diameter.

Because of the limited power of penetration of smaller sized magnesium alloy bombs, they tend to lodge on the roof or upper floors of a building.



A typical kilo magnesium (electron) incendiary bomb.

They rapidly burn through the floor, because of the intense heat generated, and then drop disastrously down to the floor below.

To control the fire and to limit its spread, prompt action must be taken. The intense heat generated prevents the fire fighter from approaching the bomb closely. To do this might be dangerous especially for the first minute, because the priming mixture burns with such violence that a mass of sparks and molten metal may scatter for as much as 20 feet around the bomb. After the priming mixture has burned, the bomb can be approached and dealt with. The fire fighter should hold a table, chair, door or some similar shield in front of him while fighting the incendiary.

The fire fighter must decide in each case whether to deal with the fire or with the bomb itself. If the fire has gained considerable headway, it should be brought under control at once. If it has not progressed appreciably the bomb should receive first attention. In the presence of large amounts of smoke, the fire fighter should keep his head down as close to the floor as possible.

It will usually take from 5 to 6 gallons of water to deal with the bomb alone so that 10 gallons of water and preferably more should be available to control the bomb and the fire it has started. To control a fire around the bomb, a solid stream of water should be used though the solid stream of water should not be directed on the bomb itself. After the surrounding fire has been brought under control, the bomb should be attacked.

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It is desirable when dealing with an incendiary bomb with a pump tank that there be at least two persons available, one to handle the hose and to fight the fire and one to operate the pump tank. A third to keep up the supply of water at the pump tank by carrying buckets is highly desirable. However, two persons can manage and even one person alone if he tackles the job soon enough may be able to extinguish the fire.

In combating a magnesium bomb, a spray of water is used. This does not extinguish the bomb, but causes it to burn more rapidly. The 2 pound bomb will normally burn from ten to fifteen minutes, but when sprayed with water the burning time is reduced to two or three minutes. When the water is added to a burning magnesium bomb hydrogen is formed. This burns harmlessly if the water is added slowly in the form of a spray, but if a solid stream is used the hydrogen is formed in such quantities that an explosion usually occurs.

Dry sand or earth in pails may also be used in combating magnesium alloy bombs. The bomb should not be attacked until after the first minute, during which time the priming mixture burns itself out. A protecting screen, a chair, table, or other suitable object, is held in front of the fire fighter who approaches the bomb with a pail of sand and a long handled shovel. About three quarters of a pail of sand is placed around and over the bomb with the shovel. This reduces the amount of heat given off and shields the dazzling glare of the burning metal, permitting closer approach. It should be realized, however, that a bomb thus covered is not extinguished and will burn through the floor in a few minutes unless removed. The bomb may be scooped up in a shovel and placed in the sand pail. A four inch layer of sand should first be placed in the receptacle to prevent the bomb from burning through the bottom before it can be removed from the building.

Carbon tetrachloride extinguishers should never be used on thermit or magnesium bombs as phosgene may be formed by reaction with the molten metal. Extinguishers of the soda-acid and foam types are effective but no more so than is water alone. Since it requires 5 or 6 gallons of water to deal with a single 2 pound bomb, several 2½ gallon hand extinguishers would be required. Carbon dioxide extinguishers have been found ineffective.

Thermit Bombs—Thermit consists principally of a mixture of powdered aluminum and iron oxide. This mixture, when ignited, reacts chemically to form molten iron and this acts as the incendiary in igniting adjacent combustible material. The chemical reaction is rapid and violent. As a direct incendiary agent, thermit is not as effective as magnesium alloy.

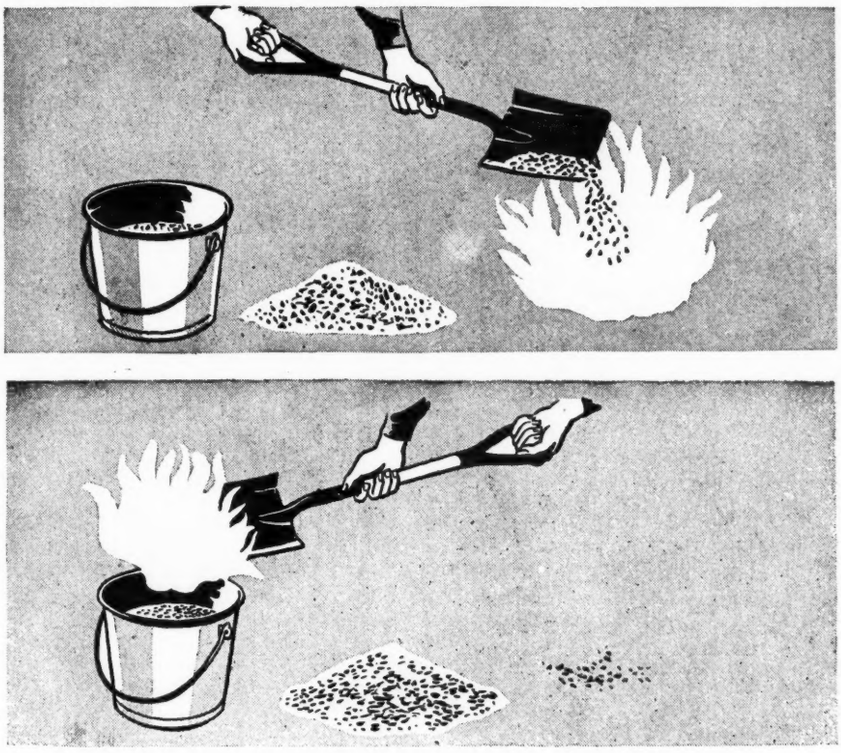
A 10 pound thermit bomb expends itself in slightly less than a minute. The mass of molten iron set free burns itself through floors and ceilings rapidly. The methods described for controlling the magnesium bomb will have little use in the case of thermit because of the short period of time required for the bomb to expend itself and the spattering of burning material from the bomb. The auxiliary fire force should attack the fire with a regular hose stream and call the local fire department if necessary.

Phosphorus Bombs—A small explosive charge is usually incorporated in phosphorus bombs to scatter the incendiary agent, starting small fires simultaneously in a number of places. White phosphorus ignites spontaneously on exposure to air. The pellets have a low combustion temperature and may set fire to easily combustible material, though they are ineffective on planks or on heavy wood construction. The burning phosphorus may be extinguished with plain water since air is excluded. A copper sulphate solution may be used as a spray on burning phosphorus particles depositing a thin coat of copper phosphide over the pellet.

Whether extinguished by water or chemical, all the pellets must be removed and disposed of by burning. If a pellet treated with copper is not removed, it may be stepped upon or otherwise abraided so as to fracture its surface and cause another fire. Care should be exercised in dealing with phosphorus either because of the painful burns that will result if it comes in contact with the skin or because of the effect of systemic absorption. No alarm need arise from the intense white smoke produced by burning phosphorus. It may prove slightly irritating to the nose and throat but serious consequences will not result.

Oil Bombs—Oil bombs are usually composed of a solid inflammable oil, such as aluminum stearate, mixed with a highly combustible material, such as gasoline or kerosene. The oils may be ignited by a small incendiary unit. Finely divided metallic sodium or potassium may be added to reignite the oil in case it comes in contact with water.

Oil bombs are usually reserved for military objectives. Fires caused by oil



Technic of combating a magnesium alloy bomb with a pail of sand.

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bombs present the same problem as the ordinary oil fire in which the burning oil must be smothered with some non-combustible material, such as steam, fine water spray or foam, while the fire beyond the limits of the oil is either smothered or extinguished with water. An oil bomb containing metallic sodium or potassium that burns or explodes may be encountered. The best method of dealing with such a bomb is to smother it with sand or to let it burn itself out while keeping the surrounding area wet and allowing no water to reach the bomb.

Multiple Effect Bombs—These are usually large bombs containing many small incendiary units with the interstices between the units filled with phosphorus or oil. The large bomb usually penetrates the building after which the case is ruptured by an explosive charge which ignites and scatters the smaller incendiary units and materials. Each unit and material must be dealt with individually as previously described.

Fire and Evacuation Drills

Every hospital should institute at once a system of fire and evacuation drills with practice periods held at frequent intervals. Certain considerations deserve special attention.

1. The frightening of patients by the ringing of alarms and the carrying out of drills must be avoided.

2. The hospital staff changes every eight or twelve hours and there must, of necessity, be trained forces for each shift of duty.

Audible alarms where they may be disturbing to patients should be wholly or partly suppressed during fire and evacuation drills. This may be accomplished by having an alarm system so designed that the signals will sound only in departmental offices, engine room, auxiliary fire-fighting stations and other important central locations.

All exits from the hospital must be inspected to see if they are suitable for evacuation purposes. The doors should open outward and several exits should be available lest some be blocked by debris. Such exits may be provided by the removal of windows at convenient points and replacing these windows with shutters. All exit openings must be large enough to accommodate stretchers easily; if patients are to be moved on mattresses, the opening must be sufficiently wide to accommodate a mattress.

In anticipation of the possible need for evacuation of a hospital, ambulatory and convalescent patients should be housed on upper floors, the lower floors being reserved for wheel chair and stretcher patients.

During the evacuation drill ambulatory patients, when instructed to do so, put on dressing gowns and slippers, pick up their blankets and leave the building accompanied by a few attendants. Patients in wheel chairs follow and patients on stretchers leave the hospital last. Wheel chair and stretcher patients should be accompanied by a suitable number of attendants.

A nurse, orderly or ambulatory patient should be assigned to each bed occupied by a wheel chair patient to help patients from their beds to wheel chairs. Sufficient help must be provided to move stretcher patients. If frequent and sustained bombing is anticipated, stretcher patients should be nursed with canvas stretchers under the bottom sheet or four or five strong canvas loops may be attached to the mattress for use as a stretcher.

No specific directions have been given in this section on the details of hospital evacuation and fire drills because such details must depend upon the structural characteristics of the particular hospital in question.

Rescue Squad

A RESCUE SQUAD should be organized within the hospital along the lines recommended in the "Handbook of Rescue Squads," a copy of which may be procured from your local or state defense council.

The rescue squad is responsible for the extrication of persons from points of special danger. The members should also notify the police of the location of unexploded bombs, rope off the danger area and notify the telephone switchboard of the presence of the unexploded bomb. The squad should be composed of a leader and four or five members, all of whom should be from the service department and understand utilities and construction. The utility repair squad discussed in a later section may also act as a rescue squad.

Air Raid Shelters

THE provision of complete protection for all patients and members of staff is seldom possible. Certain measures of protection have already been suggested, but actual shelter provisions should be confined to the following groups:

1. Those who are working on essential services on which the functioning of the hospital depends, *e.g.* telephone operators, emergency operating room staff, certain key administrative officers and air raid wardens.

2. Members of nursing and domestic staff who are off duty.

3. A limited number of ambulant patients who can easily be transferred to shelter.

Bed patients should be moved into corridors away from the immediate vicinity of windows and covered with bed clothes, bed tables and other materials that offer protection against splinters.

Shelters within buildings are readily accessible, can be made comfortable and can be provided with the usual services.

The same sites previously discussed as suitable for the housing of essential services within the hospital are also ideal for air raid shelters.

Shelters within buildings should be well isolated from light and elevator shafts. Several small shelters are preferable to a single large one and not more than 50 persons should be assigned to any single shelter.

If an air conditioning system is not installed ventilation must be provided in some other way. The inlet for such a system should be not less than 25 feet above the ground or other horizontal surface which might become contaminated by gas. Steam, gas and water pipes and those carrying refrigerants should not enter the shelter.

The ideal heating system is electrical. If steam or hot water must be used to heat the shelter, valves should be so labeled that the most backward patient could manipulate them. If space is limited, shelves can be built around the wall to hold bassinets for babies, and bunks with sides for small children.

A barricade of chicken wire should be placed 6 inches from the wall to prevent the transmission of shock from the wall. Some provision should be made for hot drinks and emergency feeding. Drugs and dressings to be used in an emergency should be kept in the shelter under lock and key.

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Blackout Regulations

THE blackout introduces the problem of preventing the egress of light, no matter how small and faint, that might be seen from the outside and at the same time of maintaining sufficient light for the performance of essential services within the hospital.

As already described, skylights and domes should be boarded over with timbers that have been fireproofed or the glass should be protected by the fabric bitumen treatment.

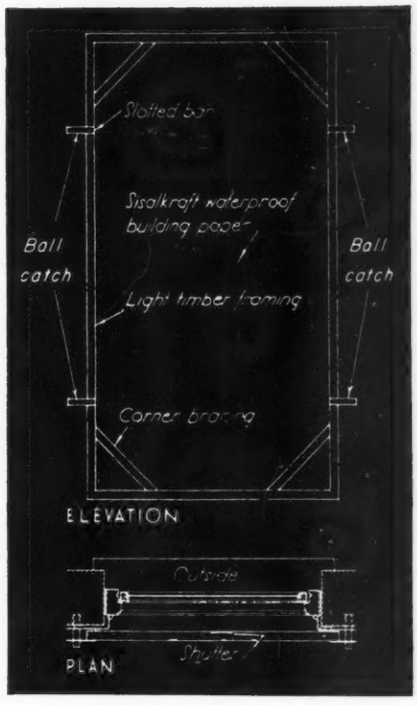
Shades and curtains already in use are not likely to be satisfactory for blackout purposes, since for a successful blackout they must extend at least 6 inches beyond the frames on each side and at the top and bottom. Any sort of black cloth that is opaque to light can be used, but this property should be tested not by daylight but by holding the cloth against a strong electric bulb to make certain that no light whatever shines through it. In addition to its property of opacity, the material should also possess durability, permanence of dye, mechanical strength, resistance to dampness and preferably should be noninflammable.

The best kind of curtain is made in a single piece. It is hung on one side of the window in such a way so that it can be drawn across from side to side without a parting in the middle. The free end can be fixed to the wall by snap fasteners. The other side is fixed permanently to the wall with a thin strip of wood. The upper edge is supported on a piece of picture wire.

Very large windows can be covered with strips of carpet stitched together and attached to a strong roller. If new shades or blinds are procured, they should be large enough to overlap the whole window opening by 6 inches on each side or be enclosed in box fittings. Tarpaulins should be kept in reserve as temporary covers to prevent exposure of light in the event that the existing arrangements are destroyed during a raid.

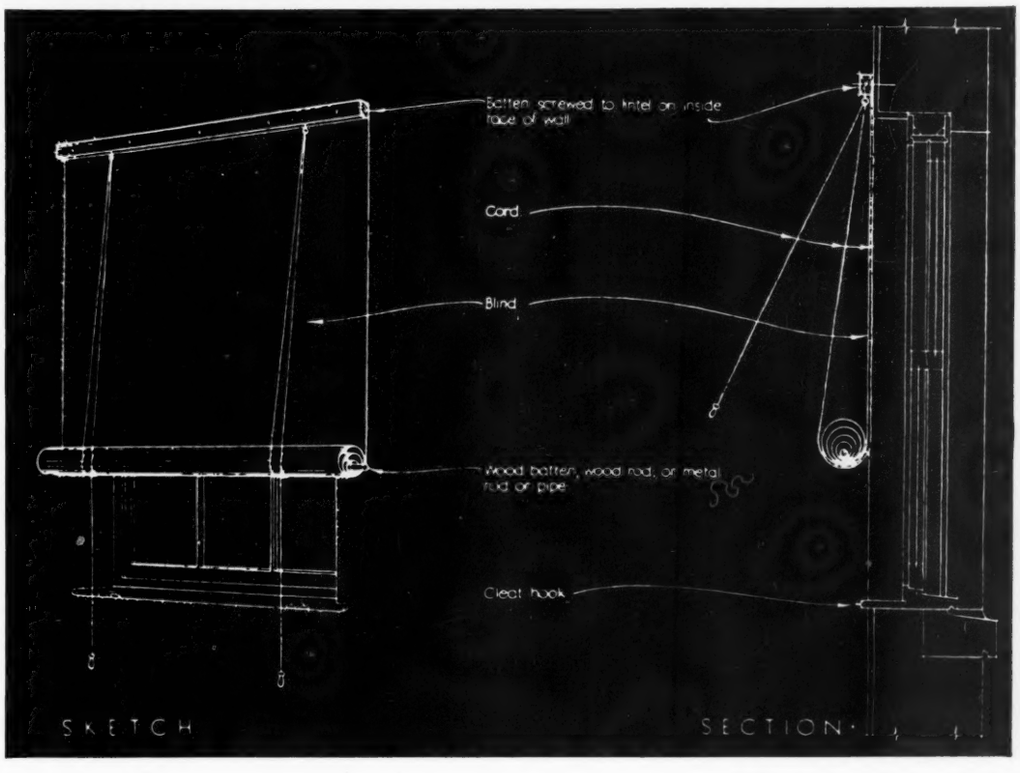
An additional blackout precaution is to paint an area about 12 inches wide around the window frame with matt black paint to minimize the reflection of light. A simple light trap can be constructed by using strips of beaver board or similar material, 4 to 6 inches wide, in the form of a box to guard against the escape of light through cracks above or around shades or curtains.

For rooms in constant use for administrative purposes it will often be more economical in the long run to provide well-fitting light weight screens which can be removed in the hours of daylight.

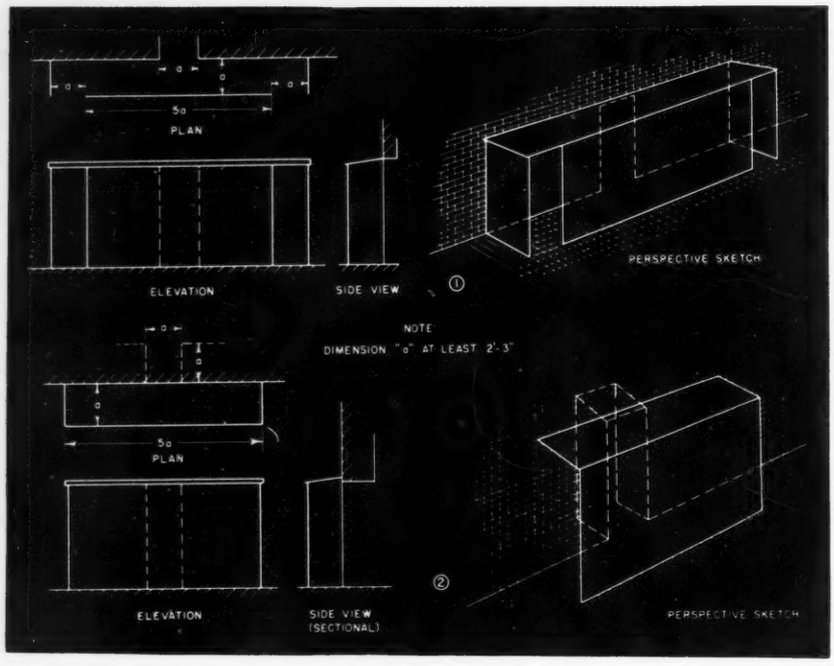


Inexpensive form of light weight screen, which can be removed by day.

Doors opening to the outside must be protected against the escape of light. While the use of double windowless doors is sometimes feasible, the provision of a light lock is generally much more satisfactory. The examples illus-



Temporary improvised screen blind made of carpeting. This will serve for a large window.



External removable light locks.

trated are easily constructed, either canvas or wood being used. Light locks through which patients are admitted must, of course, be large enough to take stretchers easily.

Lighting Within the Hospital—The interior of the hospital should be examined by night in order to determine what lights can be dispensed with entirely without loss of efficiency. Unnecessary bulbs should then be removed.

Lights of reduced candlepower can be substituted for bright lights in corridors and other places where good lighting is not a necessity. The use of small bulbs screwed into baseboards should also be considered and lights that can be dimmed by the use of resistance coils can be installed in wards and siderooms. Reduced intensity lights are now being commercially developed for blackout and may be used inside or outside of buildings.

Cylindrical tubing of tin or black cardboard, cut to the proper size, can be placed over unprotected bulbs to throw the light downward in a circle and prevent the rays from spreading. Desk lights should be provided with dark shades.

In accident rooms, where good light is essential, the blackout arrangements should be carried out with scrupulous care. Entrances, which should be provided with light locks, can be indicated by white incandescent bulbs of low intensity properly hooded or by signs such as are illustrated. Direction signs can be marked by broad, heavily painted white stripes a few inches above the floor or street level.

It is desirable that lights be connected to group control points so that they can be extinguished instantly in the event of damage to the premises causing exposure of lighting. These control switches should be located at convenient points throughout the hospital. As soon after the receipt of an air raid warning as the necessary prearranged precautions for protection and evacuation to shelters have been carried out, all lights, except those essential for the operation of the hospital, should be extinguished.

The work required to complete blackout arrangements in a hospital is difficult and time consuming; hospitals should be in a position to complete their lighting restriction measures within a few hours' notice. The preparation of equipment cannot be deferred until lighting restrictions take effect.

When lighting restrictions have been introduced every window, transom and door should be individually inspected to be certain that the blackout is complete. The inspection should be carried on outside the building by competent reliable observers, who preferably have had nothing to do with the installation of blackout devices. The inspection must be carried out routinely and repeatedly to be certain that precautions are not being relaxed. These tests made by the hospitals themselves are in addition to the surveys that will be carried out under the jurisdiction of air raid wardens.

The state and local defense councils will provide the general rules for blackout. These should be posted in conspicuous places throughout the hospital and should be supplemented by such rules as the hospital authorities have made for the conduct and behavior of patients and staff.

Protection of Utilities

ALTHOUGH the maintenance of essential services is the joint responsibility of utility companies and the state and local defense authorities, the hospital must also share in this responsibility.

To assume this responsibility, the hospital should organize an emergency repair squad. Its duties should include shutting off illuminating gas, refrigerant, steam and nonessential electric lines and making such emergency repairs as may be required to limit the damage or loss of a utility service. The dispatch of such a crew should be handled by the control office within the hospital.

Such a crew should be composed of a foreman and four or five men, all selected from personnel normally performing the repair work of the hospital. The same group may serve as a rescue squad, the functions of which have already been discussed.

Most hospitals have maps showing the distribution of their essential services, such as electricity, heat, water, telephone and sewage. If maps do not already exist, they should be made promptly. Important valves, flanges and switches should be identified by special colors, preferably corresponding to the code of the American Society of Mechanical Engineers. The maps, code colors and other essential data should be placed in several parts of the hospital and at least one person who knows where they are and how to interpret them should be in the hospital at all times during the day and night.

In the event of a breakdown of the essential utilities within the hospital every effort should be made to restore service as quickly as possible. It is the

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duty of the hospital to protect its own equipment as well as possible. Reenforcing walls and roofs, housing the engine room and sandbagging the points of entrance and exit of pipes, drains and cables will be of value. Pipes should be valved at their point of entrance to the building. The telephone switchboard, which is especially sensitive to earth shock, should be placed well away from walls that might transmit the shock and should be on the second or third floors of buildings of five or more stories.

Alternative Arrangements

Communications—The private branch exchange, such as is used in most hospitals, is often powered with batteries, but the entire telephone system within the hospital may be disrupted or destroyed. Boy and girl scouts can be used for carrying interdepartmental messages in the event the switchboard is thrown out of use and even before that time their services will relieve the congestion in the telephone room. Special messengers are needed for communications outside the hospital and arrangements for their services should be made through the communications officer at the district control center.

Electricity—The estimated peak demand of ½ kw. per bed per day, half of which is for laundry purposes, may far exceed the amount of electric current that could be furnished in an emergency. It is rarely practical to maintain the x-ray department if the public electric supply is interrupted because of the difficulty in obtaining a generator of sufficient size. A supply of copper wire should be available for use in the emergency repair of disrupted power lines. If a power generator is to be procured it should provide sufficient current to supply: (1) lighting for emergency operating rooms, essential corridors, control office, telephone exchange and reception rooms and (2) at least one elevator.

Even small power plants have been found adequate to maintain services of this extent for short periods of time. Auxiliary electric systems should be tested out once a week or at least once a month to ascertain whether they are in proper condition.

Provision for lighting at essential points should be made in case the auxiliary system is destroyed. Portable operating room lights powered by individual batteries have proved satisfactory and many hospitals already possess them. Dry cell batteries are subject to deterioration in periods of inactivity and British experience would indicate that for this reason the accumulator type of battery is to be favored.

Candles are obviously dangerous, and though they should be provided along with stands, they should not be used except as a last resort. Employes should be supplied with flashlights, the condition of which should be checked periodically. The use of flashlights must conform to regulations of the blackout.

Water—It would be well for hospital administrators to request the advice of municipal water departments as to how their water supply could best be protected and supplemented and how auxiliary supplies could be secured and maintained. In some instances this may be accomplished by tapping additional water mains. It is not feasible to dig wells because of danger of contamination from fractured sewers.

Hospitals should make plans for the conservation of water in event of emergency. A supply of paper eating utensils may be obtained.

Because of the importance of the water supply for fire-fighting purposes, an interruption should be anticipated by storing water in bathtubs and other suitable receptacles at the close of each day. More permanent storage would be desirable when it is necessary to conserve the supply.

Emergency rations for use in shelters and wards can be stored in bottles.

Heat—If the heating system is disrupted, the staff can be kept warm by wearing additional clothing and the patients by remaining in bed and using additional covers or hot water bags. Hot water bags for this purpose may be improvised in most hospital workshops by cutting a discarded inner tube into sections, sealing one end and incorporating a stoppering device in the other. Kerosene or gasoline heaters are unsafe because of the risk of fire and because of the danger of carbon monoxide gas, a danger that is accentuated in the presence of blackout.

Sewage—If fractures occur in sewer pipes that are below the lowest point in the hospital, gravity will prevent flooding. So long as sewage will flow through them they should be used under such circumstances. If the fractured pipe is above the lowest point in the hospital, the overflow will accumulate in the basement and other dependent portions of the building. The sanitary dangers imposed by a break in the sewage system are obvious. If prompt repair is not possible, such temporary measures as may be necessary for the protection of patients should be instituted. Evacuation should be a last resort and would not generally appear to be necessary.

Every hospital should be supplied with latrine buckets that could be used in case of an emergency, one bucket being provided for every 50 persons. Prearranged plans for collection should be agreed upon with the public officials.

Garbage—It should be anticipated that in emergency conditions there would likely be an interruption of garbage collections. Garbage suitable for swine may be accumulated for their use subject to the regulations of the sanitary code. What remains should be incinerated. Hospitals that do not already have an incinerator should consider the advisability of obtaining one. Incineration must be carried out in such a way that it does not violate the regulations of the blackout. It may be advisable to consult the local or state health department in regard to emergency disposal of garbage. Burying or hauling is a possibility.

Facilities for Care of Casualties

HOSPITALS intended for the immediate treatment of air raid casualties should organize facilities so as to provide the following: clearly marked entrances, a reception room, decontamination rooms, operating rooms, a mortuary and laundry service.

Entrances—Clearly marked entrances and routes for walking cases, stretcher cases and gas casualties should be provided. If possible separate entrances and approaches should be provided for stretcher cases, ambulatory patients and those suffering from the effects of gas. Gatemen posted before the hospital should direct the patients to their proper entrance.

When one entrance only is available the three types of casualties must be directed to separate admitting rooms, one for gas contaminated cases, one for the walking injured and one for stretcher cases. If it is impossible to provide more than two admitting rooms, stretcher and ambulatory cases can be assigned to one and gas cases to the other. If only one admitting room is possible, no person contaminated with persistent gas should be permitted to enter unless the hos-

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pital is reserved for the care of those injured by persistent gases, in which case other casualties should be refused entrance.

The admitting entrance to the hospital should be as wide as is convenient and should accommodate an ambulance easily. To assist ambulance drivers working under the conditions of a blackout, the following markings should be applied with white paint to indicate the route to the admitting entrance.

1. Lines in lengths of 1 foot and with 1 foot gaps on vertical structures, such as trees and corners of buildings, and on horizontal faces of curbs at intersections, corners and places where road widths alter abruptly.

2. A continuous white line down the middle of the drive. Arrows or other suitable markings should be used to indicate points at which ambulances are to stop and back to the reception platform. Similar white arrows should be used to direct ambulances to the exit.

Such devices, though suitable for lighted vehicles, will not serve to give directions to walking cases. Illuminated signs provided with approved hoods should be used to indicate both the entrance to the hospital and the reception entrance for walking wounded and contaminated cases, respectively.

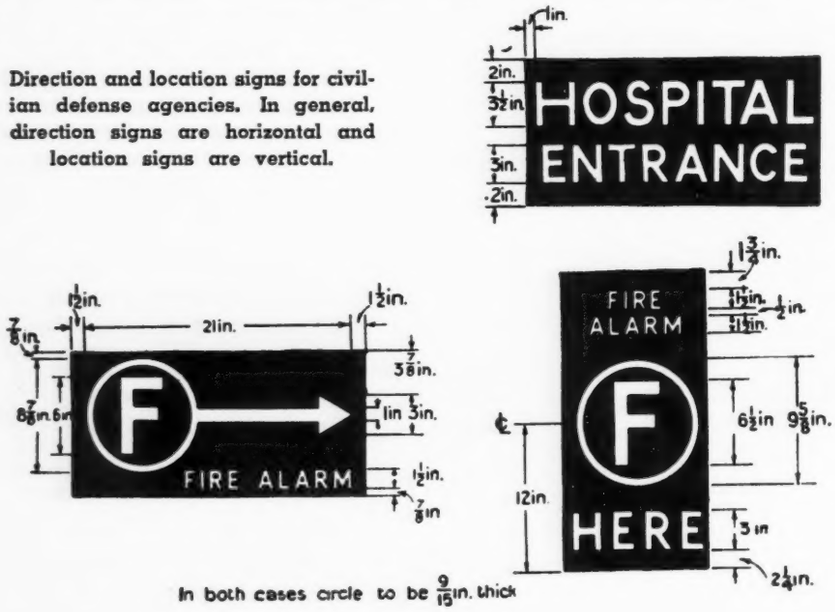
The Reception Room—In the event of an air raid it should be anticipated that patients will be brought to the hospital in large numbers. The reception room must, therefore, be commodious and so arranged that members of the staff can keep all the patients in it under continuous observation. In larger hospitals it may be more efficient to provide separate rooms for men and women, but in small units this increases the number of staff required to handle patients to such an extent as to interfere with the operation of the hospital as a whole. In such cases separation by screens is sufficient if separate toilet accommodations are provided.

The reception room serves three main purposes: (a) as a waiting and observation room before distribution to operating rooms and wards; (b) for making and checking records, and (c) for the continuous supervision and sorting of cases requiring resuscitation or other forms of urgent treatment. This function must be carried out by an experienced physician.

Because of the nature of the work it is expected to perform, the reception room should be closely related to the resuscitation and transfusion rooms and to the minor surgical room.

Decontamination Rooms—The subject of chemical warfare is discussed extensively in "First Aid in the Prevention and Treatment of Chemical Casualties" and "Protection Against Gas," published by the U. S. Office of Civilian Defense, copies of which may be obtained from the state defense council. This paper will discuss the arrangement but not the operation of the decontamination rooms.

Decontamination stations operate most efficiently when well separated from the hospital. Even if this were attempted a certain proportion of patients would be brought to the hospital in a contaminated state and it is, therefore, necessary for hospitals to make arrangements to accommodate them. The arrangement of the decontamination station is graphically portrayed in the accompanying figure; the general description may be found in "First Aid in the Prevention and Treatment of Chemical Casualties."



Direction and location signs for civilian defense agencies. In general, direction signs are horizontal and location signs are vertical.

Arrangement of Station

The arrangement of the decontamination station need not be elaborate, but certain essential features must be provided. These include a room in which contaminated clothing may be removed and stored in bins, a second room in which the process of decontamination can be carried out and a third room in which patients can be reclothed and temporary dressings applied to wounds. From this point patients should be sent to the minor surgical clinic, to the resuscitation room, directly to a hospital ward or should be disposed of as may be dictated by the nature of the case in hand.

Attendants in the gas decontamination room wear respirators, special gasproof gloves and clothing. Ordinary rubber gloves are not gasproof and should not be depended upon. These garments are awkward to work in, so that repeated rehearsals are necessary. Also they are likely to deteriorate and inspection must be carried out at regular intervals. The ordinary gas mask furnishes effective protection of the lungs and eyes against every type of gas that is likely to be used by the enemy.

Bandage scissors provided for the decontamination room must have unusually large finger holes, to permit their use with the type of gloves that must be worn.

The ventilation of the decontamination room must be adequate to prevent the accumulation of gases in it. When the special emergency is over, everything in the room must be scrubbed with chloride of lime; the walls and floors must be hosed, and the room must be left open to the air for twenty-four hours or more.

Various methods have been devised by which those in the field can be taught to recognize and distinguish the various gases by their odor and general characteristics. However, the clinician, far away from the field of activity, will frequently be confronted with the need for differential diagnosis on the basis of signs alone. It is essential that differential diagnostic criteria be formulated so that contaminated patients will not be admitted to the hospital and so that persons

suffering from the effects of non-persistent types of gases will not be subjected to decontamination procedures that might jeopardize their lives.

Owing to the tremendous pressure under which physicians may be obliged to work in some of our large cities at such times, an accurate diagnosis cannot always be made after the superficial examination that patients may receive.

A rule of thumb diagnostic differentiation may be made on the following bases: The points to be noted are:

1. Is the patient wearing a mask?

2. Is the patient breathing easily? (Patients wearing a mask will be breathing easily. Patients suffering from lung damaging gas cannot stand the restriction of respiration caused by a mask.)

If the patient is breathing easily the case should be treated as one of persistent gas. If the patient is breathing with difficulty, it should be treated as a phosgene case.

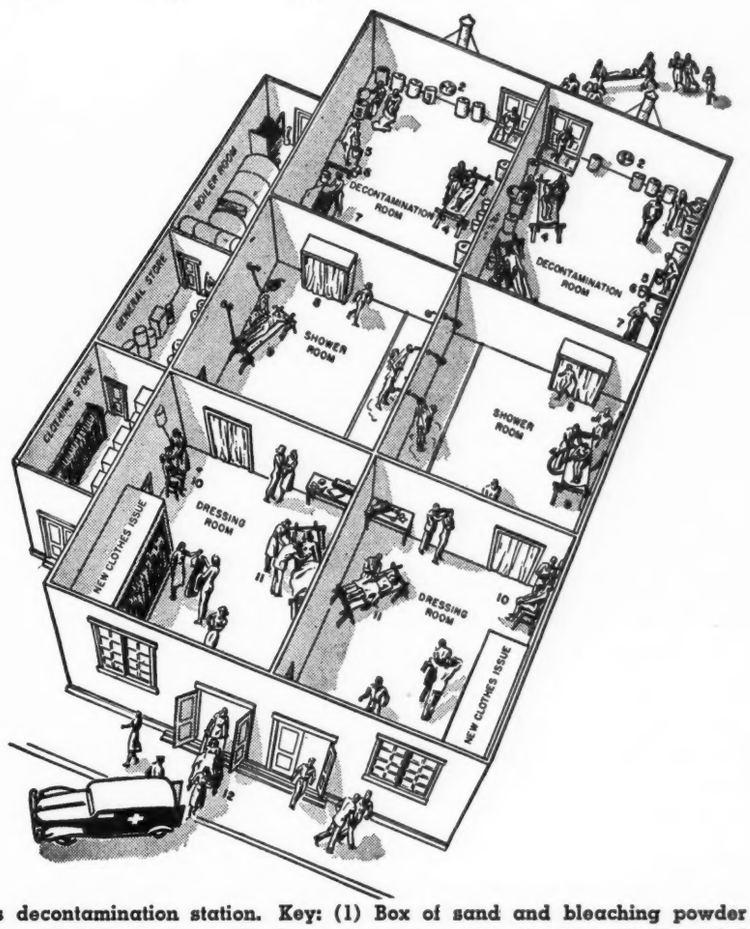
Operating Rooms—Operating rooms situated on the top floor with large windows and skylights are obviously unsuitable for use during air raids. It will be necessary to plan alternative rooms for use in the event of an emergency.

Such operating rooms should be on the protected lower floors or in the basement. They should be as convenient as possible to the reception room, the number of staff men who will be available to man them being taken into consideration, the number of rooms provided should be in proportion to the number of casualties that may be expected. If it is anticipated that the period of emergency may be prolonged it may be worth while to consider installing an air conditioner.

In any case proper ventilation should be provided. The emergency operating rooms should be large enough to accommodate two tables at a time. One anesthetist can then handle two cases. The number of nurses required is also reduced in proportion.

Because of the high percentage of fracture cases among air raid casualties, special provision should be made to expand the facilities for their accommodation. This may mean adding to the number of fracture tables and fracture beds already in the possession of the hospital. If the closed treatment of wounds is to be used, this will further add to the requirement for plaster tables.

Mortuary — Experience in air raids has indicated that the death rate may



Gas decontamination station. Key: (1) Box of sand and bleaching powder for shoes. (2) Exhaust fans. (3) Covered metal can for clothing. (4) Wounded on stretcher decontaminated by attendant with protective clothing and mask. (5) Kerosene sponge to remove mustard. (6) Waste pail for cloths and oil. (7) Bins for gas masks. (8) Gas locks. (9) Wounded bathed by attendant. (10) Eye irrigation. (11) Caring for wounded. (12) Evacuating wounded.

be from 30 to 50 per cent of all casualties. While many of the victims may be pronounced dead at the scene of the incident and taken directly to the public morgue, many may reach the hospital in a moribund state and others may die after admission.

Those victims who die en route to the hospital should be removed immediately to the mortuary on arrival, both to spare the feeling of the living and to make room for those for whom something can be done. Because of the need for all available space to accommodate the injured, the mortuary should be in another building adjacent to the hospital if possible. Identification should, if possible, be made before the victim is sent to the mortuary.

The importance of obtaining additional staff for mortuary work should be stressed. Nurses whose services should be devoted entirely to the care of the living should not be used to attend the dead. The work of identification, even on the wards, should be carried out by trained lay workers. Bodies should be properly prepared before being shown to relatives or friends. The health department will make the necessary arrangements for release.

The importance of postmortem examinations should not be forgotten and permission should be sought in all feasible cases.

Laundry — Usually, it will not be practical to expand the existing laundry facilities of the hospital because of the expense involved and of the difficulty in procuring the needed equipment. As it is difficult to determine the extent to which expansion of facilities may be required, it is usually more economical to utilize the services of commercial laundries. The capacity of the existing hospital laundries can be expanded by shortening the washing formula, though this should not be carried beyond the point of safety.

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Unit System and Reserve Stocks

THE various departments of the hospital must anticipate the possibility that part or all of their working supplies may be destroyed or otherwise rendered unusable through accident. This applies to the pharmacy, emergency operating rooms, reception room and delivery rooms. A plan should be prepared whereby operation could be carried out at some other location should its original location or part of its equipment be destroyed.

Such a plan would necessitate the maintenance of reserve stocks of essential items. Before additional supplies and equipment for this purpose are purchased, a careful survey should be conducted to determine what equipment and supplies are on hand and what could serve as substitutes. Purchases should not exceed the anticipated demands of the hospital. It would be advisable to plan a program of this nature on a long range basis, with purchases systematically spaced as funds are available.

Hospitals in the same community could profitably undertake such a program as a joint project, since it is unlikely that all of the hospitals of a community would be seriously damaged in an air raid. Such stores should include folding beds, mattresses, linens, blankets and drugs; these should be placed in a central depository and drawn upon as needed by the various members of the pool.

Beds—An adequate number of folding beds should be on hand so that they may be put up in the places determined at the time of the survey of the hospital. They should not be set up permanently until their need is demonstrated, but rehearsals should be carried out so that they can be set up rapidly when the need arises. Because of the number of fracture cases that can be expected among air raid casualties it would be wise to increase the number of fracture beds on hand.

Linens—The amount of bed linen to be laid in should be in proportion to the increased bed capacity of the hospital and, in addition, should be sufficient to accommodate the work to be done in the reception and operating rooms.

Blankets—There is a high incidence of shock among air raid victims and it will, therefore, be necessary to increase the stocks of available blankets. An adequate number should be on hand to meet the demands of the increased bed capacity, the work in the reception and operating rooms and the number required for ambulance transport.

Food — A supply of nonperishable foods should be laid away in a special larder, preferably in a safe place in the hospital. The food in this larder should not be used except in case of emergency. As boxed or canned foods are used, they should be replaced by a systematic plan of rotation.

Because of the danger of contamination of food by chemical warfare agents, stores of food should not be kept in the open. If stored in warehouses, they should be placed on the upper floors where gas contamination is unlikely. Meat in cold storage is generally regarded as safe from contamination by gas. If it is suspected that food has been contaminated samples should be submitted to the health department for examination.

Fuel — Supplies of fuel should be accumulated to meet the demands of a possible emergency, consideration being given to the available space for storage of such material.

Drugs and Biologicals—Many drugs now in common use are likely to become scarce because the source of supply has been or may be cut off. Although the justifiable use of drugs should not be curtailed, unnecessary use should be avoided so as to conserve our limited supply.

Drugs that are likely to be needed in excessive amounts include the sulfonamides; morphine; tannic acid; gentian violet; serums of various types, particularly for tetanus and gas gangrene; oxygen, and the intravenous solutions—glucose and saline.

Because of the need for blood for transfusion (both whole blood and plasma or serum), due consideration should be given to desirability of establishing a bank within the hospital. It may be practical in some instances for a single hospital to serve as the collecting and distributing agent for a number of neighboring institutions. In any case, each hospital must have facilities for the storage of blood or its products for transfusion purposes.

Other Supplies — The incidence of shock in air raid victims emphasizes the importance of having an adequate supply of hot water bottles and heat cradles.

Because wounds in air raid victims are extensive and often multiple, it will generally be necessary to increase the equipment needed to sterilize dressings, the number of dressing carts and the supply of dressings on hand.

To care for the large lacerated wounds of the extremities so common in air raid victims, an unusually large store of plaster of paris bandages and splints should be provided. Additional oiled silk may be needed for the treatment of burns, depending on the form of treatment to be followed.

Provision of special instruments for the operating room should be held to the minimum. Surgeons should be encouraged to improvise or to get along with less complex and more easily procured equipment.

Other equipment that will probably be needed in excess of peacetime demands includes nasal catheters (for oxygen), BLB or similar masks and blood pressure cuffs. It will generally not be necessary to purchase any extra sphygmonanometers although an additional supply of cuffs is needed which, left in place on patients under observation, can be plugged into the sphygmonanometer gauge as needed.

A reserve of parts that are likely to break down in electrical or plumbing equipment should be available.

Supplies of cigarets and hard candy should be on hand in that part of the building to be used as an air raid shelter.

A number of larger city hospitals carry a considerable quantity of apparatus and equipment that in time of war would be difficult to replace. In addition, such hospitals may be obliged to reduce their bed capacity and perhaps abandon operating rooms because of their exposed position. Because their valuable supplies must be conserved, it is suggested that they be transferred to safe areas or lent to base hospitals affiliated with the central unit. Such equipment might include portable x-ray apparatus, microscopes, incubators and centrifuges.

Stretchers—An increased number of stretchers will be required both to accommodate the increased number of stretcher patients brought in and as a reserve on hand so that ambulances need not be delayed while stretchers brought in by them are being unloaded. Stretchers that combine the features of durability, comfort and low cost should be obtained.

Radium—Special consideration must be given to the protection of radium not only because of its financial and

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therapeutic value but also because of the risk of its dispersion. The amount of radium possessed by any institution is usually small and the containers in which it is kept are also small. The blast of high explosive bombs may hurl the containers to great distances, making location difficult; or a container may be broken and its contents dispersed. In that event, the buildings and sites of dispersal would be unsafe for many years unless cleared by especially protected workers. Until then it would probably be safer to abandon them, for the inhalation even of a small amount of radium (1/100 mg.) may be fatal.

The first step in safeguarding the supply of radium is to make a census of the amount in each location. In wartime it would be safer to use radium in the form of radon, which could be prepared outside the city.

If possible, radium itself should be used only during daylight hours. Surface applications may be safely employed if a person is designated to remain with the patient and to remove the radium immediately and place it in storage in the event of an air raid warning. If the application is made internally, the body of the patient would probably serve as an adequate shield.

Opinions differ as to how radium should be stored. Concrete buildings and bulletproof safes, with walls at least 3 inches thick, have been proposed but are not practical. Some hospitals in London have wells 30 to 50 feet deep, into which the radium is lowered and from which it is raised in an especially built, protected bucket. Whatever plan is employed, the radium should be kept in some place in which the risk of a direct hit is minimal. An underground storage place is best. Radium should be assigned to the custody of two or more persons properly instructed in the risks of its exposure and dispersion.

The Ambulance Entrance

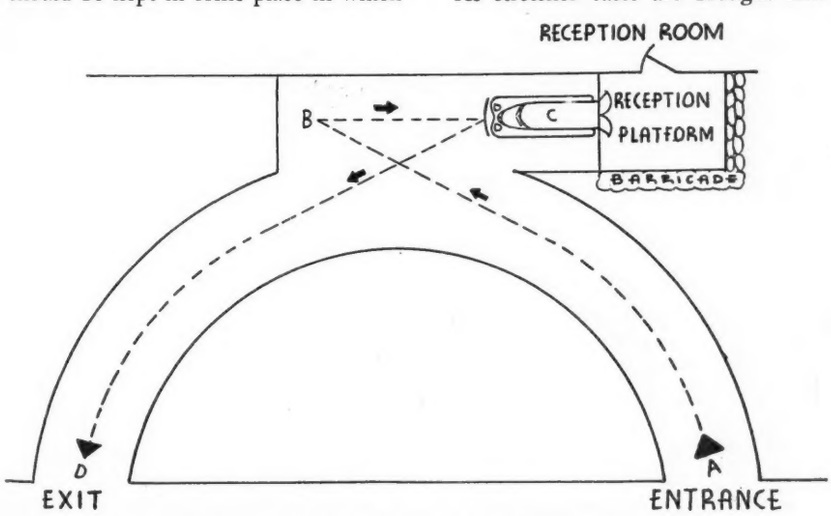
AS PREVIOUSLY indicated, separate entrances should be provided for the admission of walking wounded, stretcher cases and gas cases. The ambulance drive should be so arranged that unnecessary turns are eliminated and ambulances may leave by another route. Unnecessary turns at the admitting platform can be eliminated if the path of entrance and discharge approach that illustrated in the figure.

The ambulance enters at gate *A;* goes forward to the point *B,* which is indicated by a sign; backs to the reception platform *C,* and goes forward from that point so as to leave by exit *D.*

Using the same plan illustrated in figure 2, a barricade should be erected on two sides of the reception platform. The barricade must extend at least to the top of the door of the reception room. The barricade serves not only to protect those working on the platform but also to prevent direct access of blast to the reception room. A cover of heavy canvas extending from the hospital building to the top of the barricade will maintain blackout and permit sufficient light for unloading operations. Having discharged its load the ambulance should be furnished with a fresh supply of blankets and stretchers. Time should not be lost in transferring patients from stretchers brought by the ambulance to hospital stretchers.

As stretcher cases are brought into the reception room, they should be placed as far as possible from the door to provide space for those to follow. Stretchers can be placed on trestles of such height (36 inches) as will make them serviceable as examining and dressing tables.

The ambulance used for the transportation of persons injured with persistent types of gas should be so constructed that the entire interior can be washed with a strong solution of chlorinated lime. If the patient's compartment communicates with the driver's compartment, it, too, must be subjected to the same treatment.



Suggestive sketch for layout of ambulance entrance.

Morale

POSSIBLY the most important single need in a hospital during wartime is to make the entire staff comprehend that preparations must be made on the basis that an emergency is positively going to occur rather than that it is likely to occur. No opportunity must be lost of convincing the staff and the general personnel of the seriousness of the emergency that may arise, even though there is no present evidence of it, and of the importance of the preparations that must be made to combat it. Overtime work and the sacrifice of personal comforts are universal during an actual emergency, but the maintenance of morale is always difficult during a period of inactivity.

A well-trained, conscientious staff makes for calm patients and averts the risk of panic in an emergency. Therefore, discipline must be strict and unremitting at all times, and no laxity of any sort must be permitted.

Regular rehearsals must be carried out in every department. They should include the driving, loading and unloading of ambulances in a blackout; stretcher bearing; fire drills and the evacuation of wards; working in the operating room and elsewhere in gas masks, and working in the hospital generally under blackout conditions.

Mobilization of emergency medical field units and field drills should be carried out weekly in association with extramural reserve medical squads, reserve squads and fire auxiliaries. These rehearsals should be serious.

Distribution of Patients to Wards

WARDS should be opened as the need for them is demonstrated. Patients should be distributed to the various wards by the admitting officer. To lessen the strain on the nursing staff, severely injured patients should be evenly distributed over several wards. It is particularly unwise to assign many burn cases to a single ward because of the nursing demands of such cases. A special ward should be reserved for moribund patients.

Appendix

Fabric-Bitumen Treatment of Glass

The fabric-bitumen treatment is applied to glass as follows:

1. Glass is washed as clean as possible and scoured where necessary.
2. A first coat of bituminous emulsion is applied by brush.
3. Within ten or fifteen minutes the fabric is laid on the glass and pressed into the coating.
4. After about thirty minutes a second coat of emulsion is applied, it being well brushed through the meshes to bond with the first coat.
5. After not less than twenty-four hours a third (final) coat is applied.

The properties required in the bituminous emulsion are similar to those found in many, though not in all, materials of this type used in the building industry. It is necessary that the bond between the emulsion and the glass should not be readily destroyed by water, and this requires a restriction on the presence of free alkali as an emulsifier. The amount of filler present is also restricted. The emulsion must be sufficiently stable to be applied by brush. It must, on drying, give a film which provides adequate obscuration to interior lighting, which is sufficiently hard to hold the shattered glass in warm weather and which does not deteriorate on weathering. Bituminous emulsions of the type used for road work normally give a film that is too soft and that lacks adequate obscuration power. The following test requirements should be met:

Drying Time—The first coat when applied to a glass plate at a temperature of 60° to 68° F. and at a relative humidity of 60 to 70 per cent should become tacky within fifteen minutes.

Thickness—The thickness of the first coat should correspond to an application of not less than 1 gallon to 8 square yards. Sealing and final coats should become appreciably dry to touch within four hours.

Alkalinity—A drop of emulsion, diluted with an equal volume of distilled water, should be placed on a white glazed tile with a glass rod. One side of this drop should then be touched with a rod dipped into a phenolphthalein solution (1 per cent in absolute alcohol). There should be no red coloration.

Filler Content—The amount of filler present should not be greater than 12 per cent by weight of the non-aqueous part of the emulsion.

Softening Point of Dried Film—The softening point (ring and ball method) of the bituminous material left in a dried film should not be less than 125° F.

The fabric recommended for use is oznaburg (cotton) weighing not less than 3 oz. per square yard and should permit ready penetration of the emulsion. The fabric should be rotproofed by a suitable copper treatment. If the material shrinks appreciably on wetting, it should, before use, be wet with water or diluted emulsion and applied in a damp condition.

In applying the fabric, lay it in full width down the panels, carrying it over the glazing bars and the sides of the sash and sticking it to them. Adjacent sheets should be overlapped 4 inches.

While the fabric-bitumen treatment of glass in skylights and domes will usually be sufficient to hold the glass in place at the instant of explosion, there will be a subsequent tendency for broken fragments gradually to become detached and fall into the building. This effect will be most serious in warm weather when fall of glass fragments may occur within a few days after fracture. To prevent this, it is desirable that additional support should be given to the glass on the under side.

Supports should preferably take the form of cross-bars fitted between the glazing bars. They should touch the glass and be reasonably rigid, spaced not more than 2 feet apart. Supports should not impose any excessive side-thrust on the glazing bars.

Wired glass that is treated with fabric and bituminous emulsion will, when cracked, have a considerable measure of support from the embedded wire mesh. With other types of glass, however, wire netting (½ inch chicken wire) should be provided beneath the whole area of glass in the dome or skylight in addition to the supporting cross-bars. It will usually be convenient to fix the wire netting between the cross-bars and the glass so that it is held in close contact with the glass. Special care must be taken to secure the netting at the top and bottom of each sheet of glass.

Roof glazing treated as described and supported by cross-bars and wire netting underneath or with cross-bars only in the case of wired glass is likely to remain effective for weather exclusion and obscuration for many months after the glass is fractured.

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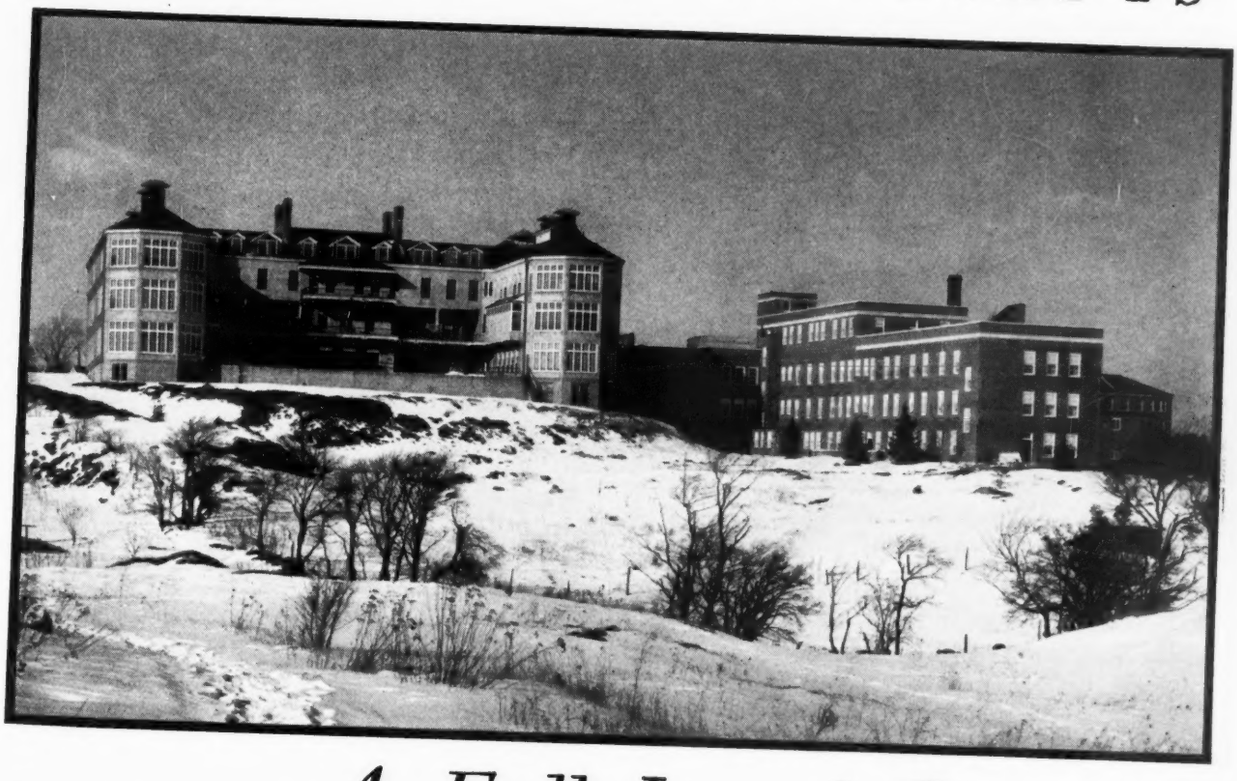
Salem

HOSPITAL

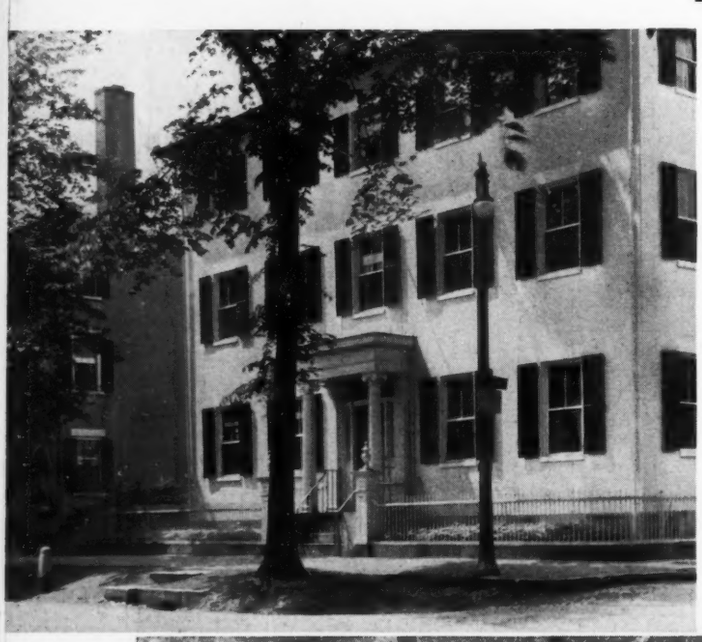
at SALEM, MASSACHUSETTS



.....A Full-Length Portrait

The Salem Saga

RAYMOND P. SLOAN



Left: Salem's houses and doorways are triumphs of Colonial architecture. Below: Lined with noble residences is historic Chestnut Street. All photographs by Russell T. Sanford.

IT STARTS with the year 1626 when Roger Conant founded Naumkeag, a tiny settlement in the wilderness of Massachusetts. Then came that memorable day four years later when into the harbor sailed the good ship Arbella with Governor Winthrop bearing the charter of the company of Massachusetts Bay.

Bleak winters followed that tested the courage and faith of those hardy pioneers. What horrors swept the colony when details of witchcraft brought hangings upon barren Gallows Hill! And in 1775 during the Revolution a courageous crowd of irate citizens dared British Colonel Leslie and his company of Kings' Regulars to cross North Bridge in search of arms.

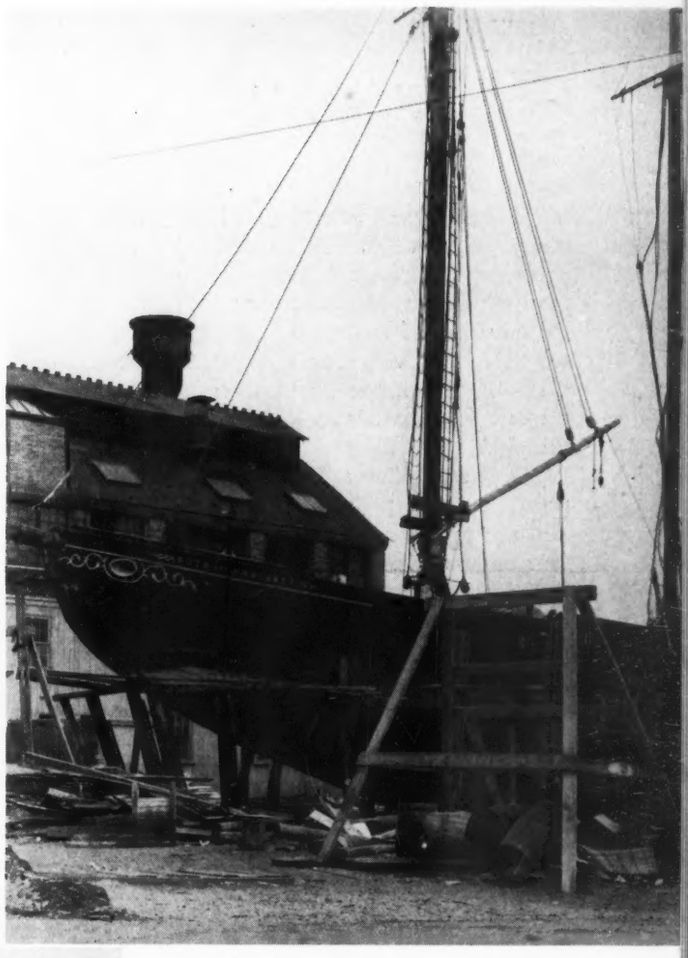
Finally, came days of peace and plenty, and the birth in 1804 of Nathaniel Hawthorne. Now other ships, many of them, followed the same course as did the Arbella through the harbor and up to Derby

Wharf—Salem clipper ships from strange and distant ports laden with rich cargoes. The early pioneer days became but a memory during this new era of commercial maritime success.

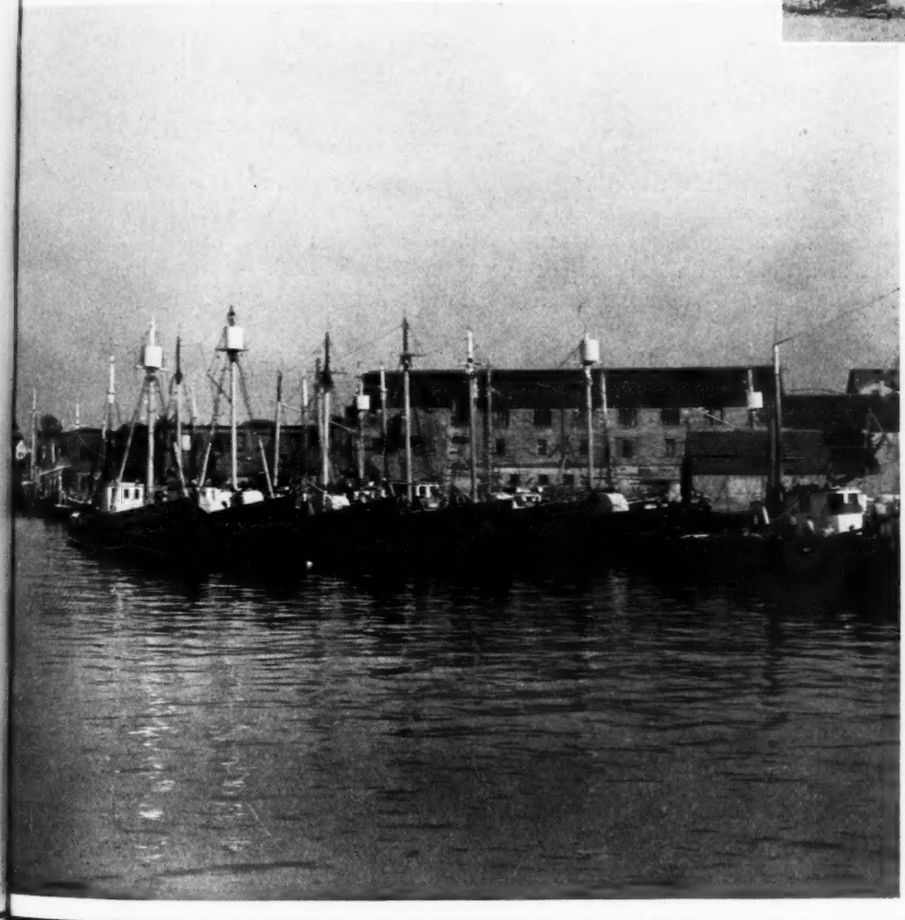
Salem kept growing and as it grew its needs became manifest. In 1870 Capt. John Bertram, one of its leading citizens, fell ill. Convalescing in his comfortable home he contemplated the misfortunes of those who could not hope to be so well attended. So it happened that in 1873 twenty-five representative men of the town applied for a charter for a hospital that would provide for the sick poor.

That, in brief, constitutes the most dramatic part of the Salem saga. Each year it is being relived by thousands of Americans and others, too, who search its historic monuments for old-time atmosphere. Scarcely a spot in the old Massachusetts city on which is not engraved some portion of its fascinating story.

While Salem boasts a substantial backlog of pioneer American stock, much of its present population consists of Polish and French workers in local industries that serve national markets. Large as Salem's industrial plants are, they employ relatively little highly skilled labor and the major percentage of Salem incomes is in the unskilled and semiskilled brackets. It is from this class that community support for most social agencies must be drawn. That this support has been generous is a tribute not only to the community spirit but to the leadership that has aroused and sustained it. Prominent and well-to-do citizens have joined hands with those of small incomes to build Salem and its community facilities.



Right: Characteristic scene of today and of centuries past at the Salem Harbor. Below: Picturesque fishing fleet at Gloucester, farther up the Cape.



Afternoon shadows weave fantastic patterns of the Chestnut Street porches. It is not difficult to imagine ladies daintily dressed in India silk furbelows mincing up and down the brick-walked street. With the late twilight of a summer's evening one sees the specter of the bellman who once made rounds regularly at 9 in the evening and 5 in the morning "as an admonition to improve the light of day and to keep good hours at night."

Rows of huge elms form high canopies of feathery green over the broad streets; shining white fences have hand-tooled gate posts; doorways in themselves are veritable works of art! And on Highland Avenue a modern hospital representing a total investment of $1,618,311 is located on a 25 acre tract of land possessed of a pleasant view—a hospital which has ever kept pace with the advances of medical science and which to this very day reflects the spirit of its founders and its supporters. That is Salem—and Salem Hospital.

The hospital was Captain Bertram's idea; its papers of incorporation are signed by him and twenty-four other representative men. This fact in itself was unique in the history of the town, for because of its being a seaport its leading citizens were obliged to be absent on ships or in foreign ports, leaving all civic and philanthropic projects to the ladies. These men determined that they would govern the hospital exclusively and even adopted a policy to that effect. So it continued for many years.

A turning point in the hospital's history occurred on an afternoon in 1914 when the institution, which then boasted 76 beds, was still located on its original site on Charter Street. The trustees had met to study plans for an addition to the nurses' home when suddenly cries of fire came from outside. Soon flames engulfed the western and southern sections of the city, finally destroying the hospital and other public buildings.

With true New England fortitude the trustees met the day following, this time not merely to consider an addition to the nurses' home but to make plans for a new hospital. It was decided to rebuild in a new location at the edge of town.

From that date on significant events occurred rapidly. The new building opened in 1917; in 1928, a nurses' home was constructed, which was followed by a modern x-ray building. Soon the hospital had a bed capacity of 186. These and other progressive steps were leading to another epochal point in the institution's history—the year 1938, which brought with it a proposed modernization program for extending the scope of its work, changing certain by-laws, educating the trustees and organizing a women's group to be known as the Salem Hospital Aid Association.

The story of Salem Hospital's achievement is chronicled through these pages. Reviewed briefly, the first chapter starts logically with a recognition that these times warranted younger men on the board. Accordingly, seven new members were elected.

One of the first responsibilities of the newly organized group was to consider carefully a three point expansion program with the following objectives: (1) enlargement of the medical staff; (2) institution of a systematic program of public relations under professional direction, to enlist a constituency loyal to the hospital and to mold public opinion generally into a pattern favorable to the hospital, and (3) conduct, after six months of such special education, of a campaign for the capital funds required.

As part of this plan it was proposed "that the development of the hospital would best be met by a new wing devoted to maternity patients except for the first floor, which would replace the present inadequate department for children."

The advantages of such a development would include the segregation of maternity patients from others, release of space for needed additional private room accommodations, provision of a model children's department, provision of additional semi-private accommodations to care for Blue Cross members, attraction to Salem of additional well-trained obstetricians, opportunity to hospitalize a larger percentage of Salem births, provision of facilities that would stimulate the practice of preventive medicine and care of premature infants. It was believed that boiler room capacity, central refrigeration, kitchen and scientific departments were adequate to carry an enlarged hospital. Thus, overhead would be distributed over a larger number of patient days.

Genre scene at the other end of town.

The proposed program became a reality as we shall see. Today Salem Hospital is indeed a medical center for an area which includes not the 45,000 people of Salem alone but such surrounding towns as Danvers, Ipswich, Marblehead, Peabody and Swampscott, containing in all nearly 100,000 population. In line with its purpose of operating on a broad public health basis, cooperative arrangements have been completed with three neighboring hospitals whereby certain services are provided to them.

The year 1941, according to the report of Oliver G. Pratt, superintendent, was a record one not only in patient days of service and in high average census but in the work of practically all of the departments. For example, there were 761 babies born as compared with the previous high point of 681; the average census increased from 168 to 185, and laboratory and x-ray work grew proportionately.

The number of patient days in 1941 was 73,079, or 6318 more than in 1940. The unit cost of operating expenses exclusive of depreciation per patient day was $5.90 in 1941 as against $5.11 in 1940.

The following pages reveal the story of a hospital that has built steadily and right; that has ever been mindful of its responsibility to serve its community, and that is in a sound position financially.

As Superintendent Pratt puts it: "Perhaps now that we have grown to 285 beds the challenge is greater than ever. However, we feel that we are now at the point at which we may more nearly reach perfection in the care of the patient. As a 125 bed hospital we could be outstanding for our size but we would not necessarily be able to provide topnotch hospital care. As a 285 bed hospital we can be outstanding as a community hospital and we can also provide a quality of hospital care equal to that of any present day institution."

The Financial Picture

ALDEN B. MILLS

WITH total assets, including land, buildings and investments, of more than $2,500,000 and an annual budget exceeding $400,000 in 1941, the operation of Salem Hospital is "big business." In this respect Salem is typical of hundreds of general community hospitals throughout the country.

What steps are taken to assure that this large investment is properly conserved and effectively used for the public welfare? How does the hospital control the receipt and distribution of this money to assure effectiveness and economy and to prevent waste and theft? Where does the money come from to operate this enterprise and how is it spent?

The first of these three questions is really the concern of this whole issue, which attempts to tell the story of Salem Hospital's service to the community. Without repeating information given elsewhere, it will suffice to record that the trustees and administration of Salem Hospital are alertly conscious of the importance of making the public's large investment in the institution pay to the community the largest possible dividends in terms of health service, professional education, research and public health education.

An illustration of this sense of public obligation was discovered accidentally in a visit to the hospital in 1939. Posted on the wall of the administrator's office where visiting trustees and all department heads could readily see it was a copy of the article by Dr. G. Harvey Agnew that appeared in the July 1939 issue of this magazine under the title "Analyzing the Hospital's Job." In this article is a check list headed "How Does Your Community Rate?" Appropriate checks for the Greater Salem community were made after each question. While a small item, perhaps, this indicates an important attitude toward the place of the hospital in the community.

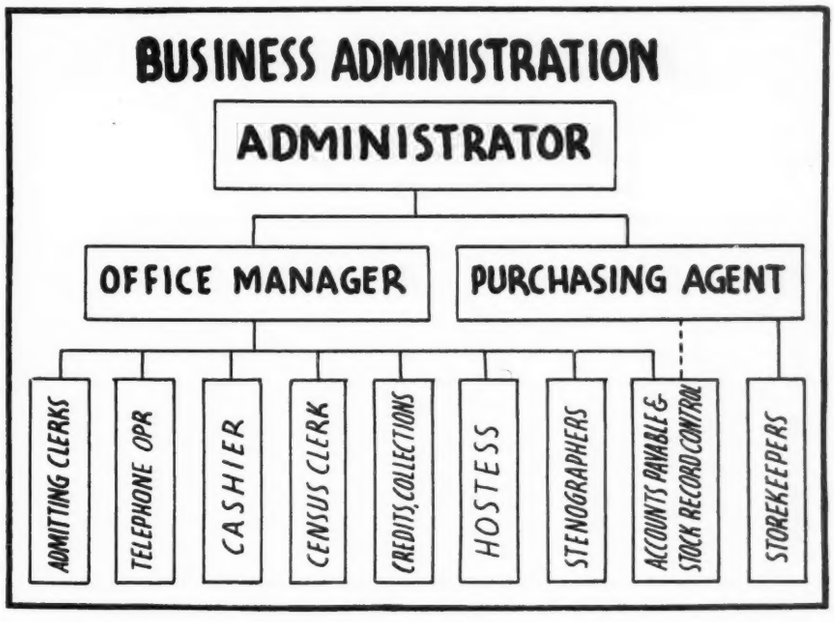
The total cost of operating the hospital has increased rapidly in recent years. The operating expenses in 1922 were just over $170,000 and in 1941, as noted, over $400,000. This is due primarily to the increasing service of the hospital since the cost per patient day has not shown any rise.

In 1922 the per capita cost was about $5.50 while in 1940 it was only $5.11. The cost for the first eleven months of 1941 was $5.86 per patient day, since salary increases were necessitated by the war economy and by the fact that every type of supply purchased by the hospital had advanced in price. Also, the opening of the new maternity and children's building in 1941 threw a greatly increased load of expense upon the hospital and this was not fully met by an immediate increase in occupancy. (During the first eleven months of 1941 the average census was 186 compared with 168 for the comparable period of 1940, yet the hospital's total bed capacity was increased from 158 beds and bassinets to 285 beds and bassinets.) Utilization of the hospital will undoubtedly soon catch up with capacity.

The chart on page 55 shows the increase in the number of patients served by the hospital from its beginning until 1940.

The earned income of the hospital has more than kept pace with the expense. In 1922 with total expenses of $170,000 (including $25,000 for depreciation) the amount paid by or on behalf of patients was just over $100,000, leaving a deficit of approximately $70,000 to be made up from current gifts and the income from endowments. Earned income was 59 per cent of expense. In 1940 the expenses had increased to $365,000 (including $25,000 of depreciation), or 115 per cent, but the amount paid by or on behalf of patients (earned income) had increased to $312,000, or 212 per cent. Earned income had increased to 85 per cent of expenses. As a result of the expanding earned income, the deficit that needed to be made up from past or current gifts was only $55,000, actually less than in 1922 when the hospital was much smaller and served only a fraction of the number of patients.

The gifts received by the hospital for the last five years were as follows: 1936, $30,000; 1937, $67,000; 1938, $36,804; 1939, $3,700, and 1940, $6,300. In 1941 a total of $20,000 was received plus the residue of an estate, which probably will produce more than $50,000. In 1939 and 1940, however, there were payments on pledges for the new maternity and children's



building of $139,000 and $110,000, respectively. They account for the drop in other gifts. The total annual amount of free service during the same five years was as follows: $68,000, $69,000, $76,000, $63,000 and $55,000. This includes free service to physicians and employes and to persons who are billed but do not pay their accounts. Excluding these items, the amount of free service charged to particular funds available for this purpose and so determined on admission or during the patients' stay amounted to the following during the five years: $3,700, $11,000, $12,000, $14,000 and $15,000.

Thus, in 1936 the total of complimentary service and uncollectible accounts amounted to approximately $64,000 and in 1940 it had been reduced to $39,000. This reduction may be attributed to the growth of the Blue Cross plan in Massachusetts, to better general business conditions and to more intensive efforts at collection of accounts. For 1941 the trustees approved a budget that anticipated that operating expenses would exceed operating income by a margin of $25,000; this added to the $45,000 that the hospital estimates as a conservative figure for depreciation would give a total deficit of $70,000. Actually the total 1941 deficit amounted to approximately $77,000.

Salem Hospital operates on a budget system. The preparation of the budget and the supervision of operations under the budget are major jobs of the administrator. Each month the trustees are furnished with a financial statement showing the budgeted income and expense for the month by departments and the amount by which income was expected to be over or under expense in each department. These budget estimates are then compared with the actual amount by which income was exceeded or fell short of expense for each month of the year to date, with a monthly average for the year to date.

This method of presenting the current financial picture has the distinct advantage of giving to the trustees an actual picture of the financial situation of the hospital as it operates. If actual expenses were merely compared with budgeted expenses, the fluctuations in patient load and correspondingly in earnings would not be so clearly shown.

Because Salem Hospital operates on a budget, it should not be assumed that the budget prevents the trustees and administration from making changes. In the spring of 1941, for example, they were convinced that it would be sound policy to raise salaries and wages in order to keep the staff intact. This was done immediately, even though the budget had been adopted and would unquestionably be unbalanced.

It then became desirable for the hospital to raise its rates to attempt to bring the operating deficit down to the figure agreed upon by the trustees at the beginning of the year. This also was done, even though most of the hospitals in the Boston area had not yet taken similar action. Certain major repairs that were planned for the year were postponed.

Cost per Patient Day of Hospital Service for Year 1940

Nursing department	$1.226
Dietary department	1.156
Housekeeping, including laundry	.580
Heat, light and power	.521
Insurance and repairs	.310
General, including office	.688
Laboratory	.216
X-ray	.370
Social service	.022
Occupational therapy	.024
	$5.113
Total number of dollars spent	$341,317.45
Patient days	66,761
Average census	168

Rate Structure on Jan. 1, 1942

Type of Accommodation and Rate	*No. of Beds at Specified Rate*
Private rooms	
$12.00	1
10.00	2
9.50	2
9.00	1
8.50	3
8.00	5
7.50	15
7.00	33
6.50	9
6.00	1
5.50	4
Semiprivate rooms	
$6.00	8
5.00	43
4.50 (children's)	9
Wards	
$4.50	12
4.00	65
3.00 (children's)	8
2.00 (infants')	5
Isolation beds	
Various prices	10
Bassinets	
Price included in mother's room rate*	49
Total	285

*Maternity room rates are 50c per day higher than for comparable rooms in medical and surgical wards. Since it usually costs $1.50 to $2 per day to care for new-born infant, the hospital is subsidizing maternity patients to this extent.

Sample X-ray Charges

Special Examinations	*Rate*
Chest and heart, including fluoroscopy	$10
Ribs	10
Chest, heart, ribs, adult checkup	5
Chest and thymus, children 12 years and under	5
Chest with lipiodol	15
Foreign body in eye without localization	5
Foreign body in eye with localization	10
Infant, body complete	5
Barium series with enema	25
Stomach and duodenum with six hour plate	15
Checkup of stomach for progress	10
Barium enema	10
Gall bladder series, Graham test	15
Barium series and gall bladder combination within two weeks	35
Intravenous pyelogram	15
Retrograde pyelogram with cystoscopy	15
Cystogram	10
Urethrogram	10
Routine films for metastases	15
Motility test	25
Bones and Joints	
Ankle	$ 5
Elbow	5
Knee	5
Wrist	5
Hand	5
Foot	5
Clavicle	5
Nose or jaw	5
In case of fracture, checkup examination	3
Ward cases at one half foregoing rates.	

Sample Laboratory Charges

Blood	
Complete blood	$ 3
White blood count	2
Red count and hemoglobin	2
Red, white and hemoglobin	3
Blood sugar	3
Sedimentation	1
Bleeding time and clotting	1
Differential	1
Urine	
Routine	$ 1
Microscopic	½
Mosenthal	2
Aschheim-Zondek	$ 5
Pneumonia typing	5
Basal metabolism	5
Electrocardium	10

Thus the budget serves as a practical working guide for the administration of the hospital and not as a shackle to prevent needed action.

Cost accounting in Salem Hospital, as in most other hospitals that have attempted such procedures, is being gradually evolved. Fortunately, one of the trustees has had extensive experience in cost accounting procedures in merchandising and has been of special help in guiding the development of the cost accounting procedures for the hospital. No attempt is made to allocate all costs to revenue-producing departments, as is done in certain cost accounting systems. The board and room income and expense are divided to correspond with the seven major nursing units of the hospital. In addition, there are eight other revenue-producing departments, namely, out-patient, operating rooms, anesthesia, laboratory, x-ray, central supply room, delivery room and pharmacy.

The expenses that are charged to each of these revenue-producing departments are limited to those expenses that can be controlled and that can be actually determined. Thus, the amount of linen used is charged to each department and the amount used by the nonrevenue-producing departments is apportioned to the revenue departments on the basis of their use. Heat, light and power, on the other hand, are not charged because the buildings are not metered in such a way as to produce the data and it is believed that the nurse in charge cannot appreciably control the cost.

Cost accounting is not carried to such an extreme as to be more costly than its worth. Items like stationery, for example, could be charged to each department but the money value is too small to justify this, in the opinion of the hospital authorities. This cost is, therefore, charged to overhead expenses.

Other items of cost that cannot be specifically charged to various units are included in overhead. They are: social service, occupational therapy, dietary overhead (although meals are charged to the units), care of grounds, laundry, heat, light, power, general expense including administration, repairs, bad debts and service to staff.

AN AVERAGE MONTH AT BUDGET ESTIMATE
BUDGET ESTIMATED DEFICIT $25,000

Department and Overhead	*Income*	*Total Direct Expense*	*%*	*Income Over or (Under) Expense*	*%*
Private, 3d	$ 3,435.39	$ 1,801.26	52	$ 1,634.13	48
Private, 2d	2,729.38	1,488.31	55	1,241.07	45
Obstetric	4,027.58	3,880.27	96	147.31	4
Medical	3,183.81	2,137.94	67	1,045.87	33
Children's	1,395.23	1,612.14	116	(216.91)	(16)
Male surgical	3,034.79	2,250.91	74	783.88	26
Women's surgical	2,919.87	2,010.01	69	909.86	31
Total board	$20,726.05	$15,180.84	73	$ 5,545.21	27
Out-patient	315.23	401.61	127	(86.38)	(27)
Operating rooms	2,066.02	698.47	34	1,367.55	34
Anesthesia	.....	220.00	(100)	(220.00)	(100)
Laboratory	2,647.23	1,405.66	53	1,241.57	47
X-ray	3,561.89	2,065.79	58	1,496.10	42
Central supply room	256.92	291.67	114	(34.75)	(14)
Delivery room	865.25	.....	....	865.25	100
Pharmacy	489.96	431.44	88	58.52	12
Total departments	$10,202.50	$ 5,514.64	54	$ 4,687.86	46
Grand Total	$30,928.55	$20,695.44	67	$10,233.07	33
Overhead					
Social service		125.00	.4	.....	.....
Occupational therapy		130.39	.4	.....	.....
Dietary overhead		672.53	2	.....	.....
Care of grounds		151.46	.5	.....	.....
Laundry		785.58	3	.....	.....
Heat, light and power		3,036.98	10	.....	.....
General expense		4,222.33	14	.....	.....
Repairs		1,500.00	5	.....	.....
Bad debts		647.96	2	.....	.....
Service to staff		667.54	2	.....	.....
Total overhead				(11,939.77)	39
Operating deficit				1,706.70	6
Free service, Salem settlements & beds				1,270.03	4
Total free service				2,976.73	10
Cash discounts on purchases		102.50			
Gifts, current period		132.07			
Income on invested funds		1,527.00		1,761.57	6
Financial deficit				1,215.16	
5% increased cost food & supplies		416.66		.....	.....
Major repairs		416.66		833.32	.....
Financial (deficit) or surplus				($2,048.48)	7

Laundry, linen and seamstress costs are apportioned to revenue-producing departments on the basis of the pounds of laundry used per month. Housekeeping wages, supplies and equipment are apportioned on the basis of the number of square feet of space occupied by the income departments (in this instance the office is included although it is not an income-producing department). The cost of food service, excluding certain items of dietary overhead, is allocated on the basis of patient days plus employe meals served.

There are several bases for allocating supplies. Central surgical supplies, nursing supplies and ward dishes are allocated on the basis of the actual requisitions. Oxygen supplies are charged only to the anesthesia department and x-ray and laboratory supplies, similarly to their respective departments. Drugs and medicines constitute a special category. Total consumption is determined by quarterly inventory. The cost of the drugs and medicines sold to pay patients is assumed to be 80 per cent of the sale price. This is deducted from total cost and the balance allocated on patient day basis.

The pegboard system of allocating supplies is fast and simple.

Physical inventories of laundry supplies, housekeeping supplies, diet kitchen and ward dishes, food, coal, nursing supplies, central surgical supplies, linens, laboratory supplies and x-ray supplies are taken each month. Quarterly inventories are made of office supplies, office forms, drugs and maintenance supplies.

It might seem as though the allocation of all of the various items used by the different departments would take more time than would be justified. The pegboard system is used to determine the number of each item consumed by each department, to ascertain the cost of the items and to enter this cost as a charge against the department. While this system is a little complex to explain, it is remarkably fast and simple to operate. The entire work is handled by one pegboard operator.

The procedure for requisitioning supplies of all kinds and for allocating costs has been formulated in a series of "standard practice instructions." Copies of these are provided to all persons in the hospital who are concerned.

All requisitioning is done on a schedule, the maids' supplies, for example, being ordered on Tuesdays and Fridays and office supplies and printed forms being ordered every other week.

The use of the pegboard with the meticulous allocation of supplies to departments is fairly recent in Salem Hospital, the program in its present form having been started in January 1941. It is too early yet to determine exactly how effective such a program will be in reducing waste and in improving the efficiency of operation of the various departments of the hospital. As the financial reports are now set up, the comparison is made between departmental income and departmental expense. Hence, when charges to patients are increased the departmental income is also increased even though the number of patients may remain constant. Perhaps increased rates might gloss over unnecessary increases in expenditures. At the end of the year, of course, the cost per patient day is computed and this furnishes an opportunity for comparing performance. Both types of comparisons are useful.

Another important aspect of the financial affairs of the hospital is the handling of invested funds. The hospital has about $400,000 in investments, principally bonds and stocks. To relieve the finance committee and the treasurer of a great amount of detail, the trustees authorized the finance committee to enter into an agreement with one of the large Boston banks to act as custodian of these securities.

The bank is instructed to collect all interest and dividends and to remit the net income monthly to the hospital's bank in Salem, to credit the proceeds of sales of securities or matured or called bonds to the account of the hospital subject to disposition upon instructions from the finance committee and to give to the hospital's investments continuous supervision and recommend from time to time to the finance committee such purchases or sales as it deems advisable.

Upon receipt of written approval of three of the five members of the finance committee, the bank can proceed with these purchases or sales, advising the treasurer of the hospital upon completion of each transaction. Securities are carried on the books of the hospital at market value on December 31 of each year.

Bequests that are recorded but have not yet been received are set up in the hospital's financial accounts at a value of $1 each. This has been done for many years for two reasons: (1) because the bequest does have value, even though that value may not be definitely known as yet, and (2) so that the hospital will not forget about bequests that might not reach settlement for one or two generations.

All employes of the hospital are bonded under a $25,000 blanket bond. In addition, administrator, treasurer and assistant treasurer of the board of trustees are bonded for $10,000 each.

The present rate structure of the hospital is indicated in the table on page 52. As will be seen, there is a considerable range in rates but there are relatively few rooms at high rates. Some sample special charges are also indicated.

The hospital administration has been studying the inclusive rate plan carefully. However, to date, there are no inclusive rates except that a minimum laboratory charge of $5 is assessed against all private patients ($3 for ward patients) and this permits them to have up to $10 worth of laboratory work without further charge. Also, in the maternity department all of the usual extras have

been gathered together under flat charges of $25 and $15 for private and ward patients. These include use of delivery room, operating room for cesarean section, laboratory, drugs, transfusion, circumcision and anesthesia. Charges that have no direct relation to maternity care, such as x-rays, board of special nurse, blood donor's fee, operating room and pneumonia serum, are not included.

Collection of accounts is handled actively by the hospital for three months and then selected accounts are turned over to a collection agency. The hospital attempts to close all accounts, either by collection or write-off, by the time they are twelve months old. Accounts charged off are still followed, however, and considerable amounts are collected. A credit file is maintained in the office so that there can be up-to-date information on patients. Persons with outstanding accounts with the hospital are not accepted as private patients.

The admission of free and part-pay patients is handled with the help of the hospital's social worker who has contacts with the other social agencies of the community. During 1941 the hospital anticipated that it would give about $667 of free service per month to the employes and medical staff and $1250 per month to free patients and would lose around $583 per month on account of bad debts. This makes a total for the year of $30,000 of service in these three categories.

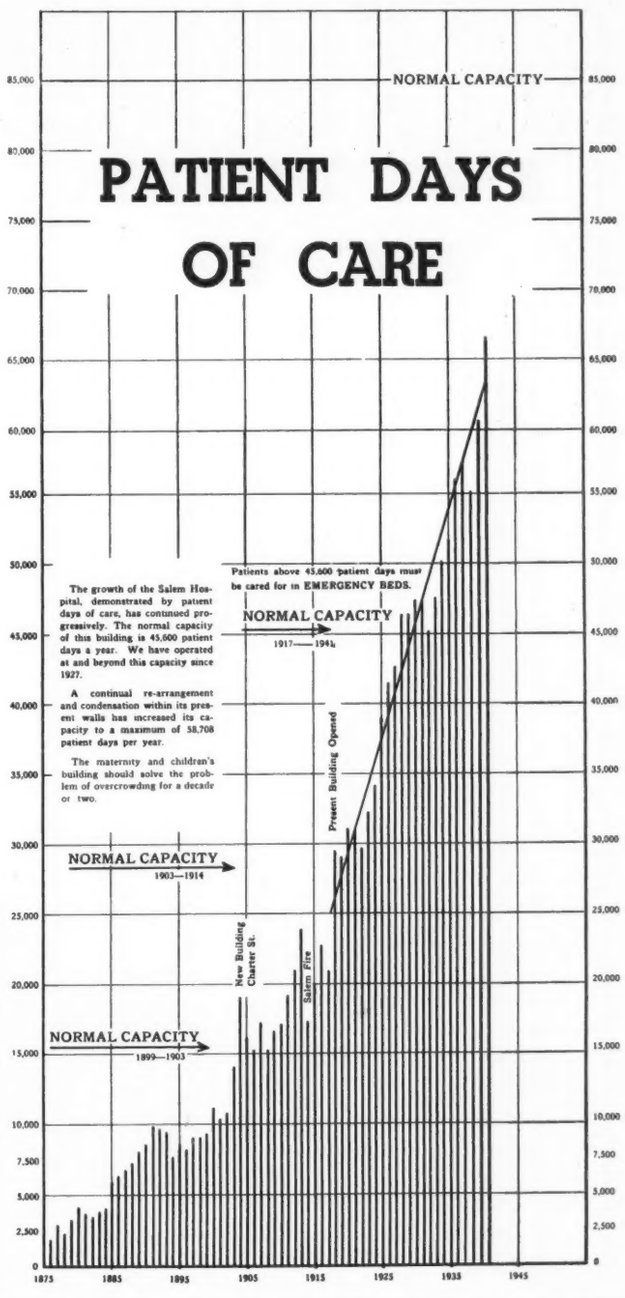
Purchases are handled, in most instances, through a purchasing agent. The inventory cards on which the perpetual inventory is kept have a minimum and maximum quantity for each item. The purchasing agent is charged with the responsibility of maintaining the proper quantity in the storeroom. All purchases of $200 or more must be reviewed with the administrator. New pieces of equipment desired by any department must also be authorized by the administrator.

Toward the end of the year, each department head is requested to submit a schedule of replacements and new apparatus and equipment desired for the coming year. This gives opportunity for the administrator to review these items with the department head concerned. In addition to the various department heads, the medical staff is asked to submit its ideas regarding hospital needs in the way of medical and surgical equipment.

When a purchase is authorized, the purchasing agent is requested to obtain bids. The quality of a piece of technical equipment, such as x-ray apparatus, is determined by the department head as well as the particular type or model desired. It is the purchasing agent's responsibility to purchase what the department head needs at the lowest possible price but the department head retains control of the quality.

If the purchasing agent finds that he can obtain a better price by changing some particular in the specification of an article, it is his responsibility to discuss this with the department head concerned and to obtain approval. Close cooperation between the purchasing agent and the various department heads is a fundamental principle of purchasing at Salem Hospital.

The hospital discounts all bills and the resulting earnings are credited to the administrative department.



This chart helped to point the need for the new building. It indicates that patients above 45,600 patient days a year had to be cared for in emergency beds. The new maternity and children's building is expected to solve the problem of overcrowding for a decade or two.

Service to Neighboring Hospitals

ONE of the significant pieces of pioneering that Salem Hospital has done is in the extension of certain of its specialized technical services to three hospitals in the surrounding area. This is an idea that has long been discussed in hospital circles and often proposed by those who dream of a better hospital care for the nation. Ever since the last World War, when many physicians and others saw the relationships that could be worked out under war conditions, the idea of base hospitals supporting and assisting outpost hospitals has intrigued the fancy of statesmen in public health.

In its free-hand statement of "an ultimate objective," the Committee on the Costs of Medical Care in 1932 sketched an outline of a community medical center which in many respects is much like the modern, approved, well-rounded general hospital, although the committee visualized a financial relationship between the hospital and the doctors that is not typical of most general hospitals. In cities or towns too small to support a community medical center this committee suggested a small medical outpost as an "affiliated unit" of a fully equipped center in the nearest city.

Even more influential than the Committee on the Costs of Medical Care in calling the attention of the trustees and administration of Salem Hospital to this matter was the demonstration of the Bingham Associates Fund. Through the work of this fund, New England Medical Center and Tufts Medical School act as a central medical school-hospital base; the Central Maine General Hospital in Lewiston, Me., as a subsidiary center, and community hospitals in various smaller Maine towns, as affiliated units.

But the dreams of idealists, when not supported by subsidies from foundations, have usually been wrecked on the hard rocks of practical difficulties. Salem Hospital's arrangement has had to steer among some rather dangerous rocks. With less enthusiasm on the part of those concerned, it might have been given up as impractical or too costly.

Laboratory or x-ray service or both are given by the pathologist and radiologist of Salem Hospital and their respective staffs to Mary A. Alley Emergency Hospital, Marblehead; Cable Memorial Hospital, Ipswich, and Josiah B. Thomas Hospital, Peabody.

Doctor Nickerson has been appointed pathologist for each of the hospitals. He attends all medical staff meetings, performs postmortem examinations, supervises the work of the hospitals' laboratories, instructs the hospitals' technicians (or sends over technicians from Salem Hospital), and examines and reports on all surgical specimens that are sent to Salem Hospital for that purpose.

Salem's own volume of service has increased because of its extensive work with neighboring institutions.

All of the foregoing services are covered in a flat monthly fee payable to Salem Hospital. Unusual tests that cannot be performed in the laboratories of affiliated hospitals are sent to Salem Hospital and are performed at the established rates per test. Doctor Nickerson does frozen sections on twenty-four hours' notice. The cost of these is billed directly to the patients.

In the case of Mary Alley Hospital, a technician from Salem Hospital goes to Mary Alley three or four times a week. During the first eleven months of 1941, the technician spent an average of thirty-one hours a month and performed an average of 138 tests a month.

A somewhat similar arrangement prevails as regards x-ray work for which Salem Hospital receives 50 per cent of the gross receipts.

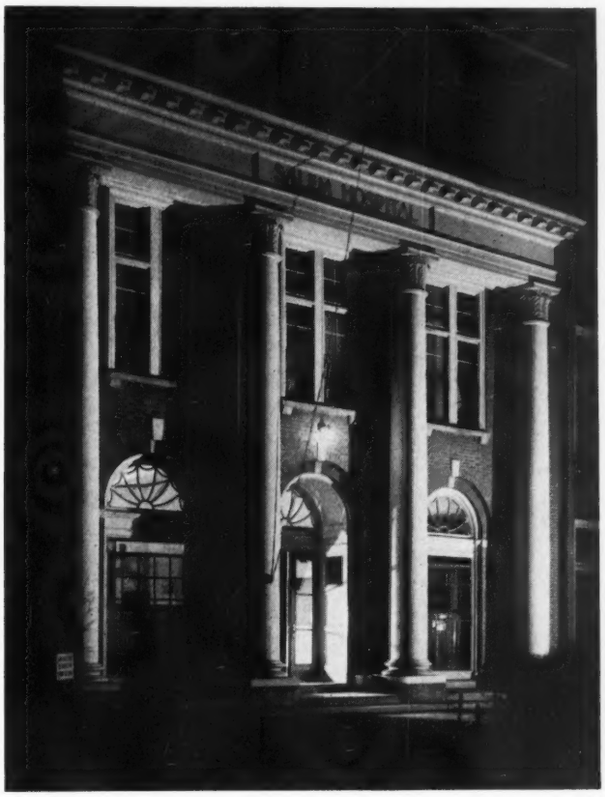
The advantages of this plan to the cooperating hospitals are apparent; they obtain service of high quality at modest cost. Their patients receive x-ray and laboratory examinations of a quality that otherwise they probably could not obtain without leaving their local communities.

In the beginning it also had a distinct advantage to Salem Hospital in that it provided a larger volume of service and thus enabled the hospital to employ more competent heads of the pathologic and radiologic departments and to attract abler specialists in other fields than would have been justified merely by the volume of work of Salem Hospital alone.

Since the arrangements were put into effect with the other hospitals, the volume of such service in Salem Hospital has increased rapidly owing to both the growth of the hospital's capacity and the increased confidence that the medical profession has in the heads of these two departments.

The medical staffs of Salem Hospital and the affiliated institutions benefit by having well-trained men in charge of the special departments. The patients benefit not only by being served by the best of specialists but also by avoiding being given duplicate tests in case they are transferred from one hospital to another.

This Way to the Administrator's Office



Good team play is stressed at this institution, where department heads are expected to run their work smoothly and to cooperate effectively with their colleagues. Photograph by Rittase.

"I'M SORRY but you must have the wrong Pratt."

"Aren't you Oliver Pratt, director of parks and recreation?"

"Yes. But I don't know a thing about running a hospital."

That was the response that the Salem Hospital trustees received back in 1931 when they asked Oliver G. Pratt to give up his job as director of parks and recreation. When he returned to civilian life from a tour of duty in the U. S. Infantry during the first World War, he went into park work in 1919 and stayed for twelve years until he was abruptly catapulted into hospital administration.

Although he had been graduated from the Massachusetts State College with a B.S. degree in 1918 and had subsequently taken work in the graduate school of education of Harvard University, Mr. Pratt felt that he was educationally unprepared for hospital administration. So he started to fill in the gaps rapidly.

Mr. Pratt set for himself a course of reading and study of hospital magazines and the books on hospital literature then available (much fewer than are at the disposal of hospital administrators today). He immediately joined the American and New England hospital associations and attended all of their meetings. When the Massachusetts association was formed in 1936 he was so well known in hospital circles that he was chosen chairman of the committee to draw up the original constitution and by-laws. In 1940 and again in 1941 he was chosen as president of his state association.

When Mr. Pratt entered the field there were no hospital institutes or it is a safe bet that he would have attended, for he was thirsty for knowledge of hospital administration. He did attend the second hospital institute in Chicago in 1934.

The theory of organization that permeates Salem Hospital will be illustrated by the various articles in this issue. The heart of the whole matter, however, may well be summarized by defining the administrator's position as a leader of leaders.

Department heads in Salem Hospital are expected to be able to run their departments efficiently and smoothly and to cooperate effectively with one another so as to maintain a high esprit de corps among the entire personnel of the institution. Much stress is placed upon good team play. The administrator is always available for consultation on particular problems and, of course, devotes a principal part of his time to working out with department heads, trustees, volunteers and others the details of new projects.

A democratic air pervades the weekly conference of department heads. One conference, for example, was devoted in part to a discussion of a new salary schedule for certain classes of employes. Each department head told how the new salaries were received by those in his or her department and the problems that still remained. This schedule, incidentally, had been discussed by the department heads' conference on several previous occasions.

The attitude of the administration toward the department heads' conference may best be presented by quoting a memorandum reviewed by all participants in this conference last June. It reads as follows:

"1. Discuss the point of view that should prevail with all of us in these meetings of department heads. Perhaps if we called this group a management committee we would take one step toward establishing that point of view. It it my feeling that we are working as a committee to decide certain policies of operation. I serve as chairman of the committee but you all have a voice and it is the intent to have unanimous action.

"2. We can make progress only if we accept a basis of perfect frankness and an understanding that at no time are we criticising or finding fault in any way. Our efforts are in the interest of improving procedures and organization principles whenever possible. No one should take to

STAFF CONFERENCE AT SALEM (left to right): Housekeeper, office manager, assistant dietitian, Superintendent Pratt, superintendent of nurses, engineer, purchasing agent and radiologist.

his department a feeling that criticism has developed, for that would defeat the aims for which we are all working.

"3. The way for progress is for each of us to maintain an open mind and to give the committee as a whole the benefit of the thinking of each individual. Certainly, each department head, although primarily interested in and cognizant of the problems of one department, must have a perspective about the operations as a whole. It is only by the benefit of this group thinking that we can develop the hospital to the degree of perfection that we all desire."

With the increase in size of Salem Hospital, occasioned by both its widened scope of activities and its added size when the new wing was erected, there was need for regular assistance to the administrator. Robert S. Hawthorne was employed as assistant administrator but was called for war duty.

Merely a hurried glance at a typical week's work indicates that the administrator has increased his own personal load correspondingly and, perhaps, to a dangerous point.

A week's schedule for October 6 to 12 is shown herewith. As will be noted, the administrator's work day usually starts at 8:30 a.m. (occasionally at 8 o'clock) and lasts till 6 or 7 p.m., with frequent evening meetings.

Organization charts are frequently prepared for the various departments

TYPICAL WEEKLY SCHEDULE OF THE ADMINISTRATOR

Monday, Oct. 6, 1941

8 a.m.—Arrived at the office; conference with maintenance superintendent who had returned from vacation; morning routine.
9-10 a.m.—Conference relative to music for graduation; series of musicales for the community sponsored by the local Y.M.C.A. and the Trust Fund Commission.
10:15-11 a.m.—Conference with president of the staff on staff reorganization problems.
11:30 a.m.—12:30 p.m.—Dictation.
12:30 p.m.—Luncheon.
2-3 p.m.—Department head conference.
3-3:30 p.m.—Conference with purchasing agent, housekeeper and dietitian.
3:30 p.m.—Discussion with chairman of intern committee relative to coming meeting of committee and dinner for industrial leaders.
6-6:30 p.m.—Supper at hospital.
6:30-7:30 p.m.—Sign weekly checks.
7:30-10 p.m.—Red Cross board of directors' meeting.

Tuesday, Oct. 7, 1941

8:15-9:45 a.m.—Morning routine; visit to certain parts of hospital.
9:45 a.m.—Left for Boston.
10:30 a.m.-1 p.m.—Trustees of Massachusetts Hospital Association meeting at Boston Dispensary.
1-2:30 p.m.—Luncheon with discussion of application of Bingham Association Extension Service for hospitals to Salem Hospital program.
2:30 p.m.—Superintendents' Club, Cambridge Hospital.
5:45 p.m.—Returned to Salem Hospital; worked in office until 10 p.m. clearing up work accumulated, including signing of monthly credit reports covering free service, preparing outline for Red Cross Roll Call publicity, preparing remarks for meetings tomorrow.

Wednesday, Oct. 8, 1941

8:30 a.m.—At office.
9 a.m.—Conference with president of Hospital Aid Association.
9:30-11:30 a.m.—Conference with committee of Aid Association in charge of service shop, together with two department store executives with experience in this realm.
Interruptions:
10:30 a.m.—Conference with graduate nurse in charge of course for Red Cross nurses' aids; reviewed program.
11:15 a.m.—Conference with chairman of Red Cross Gray Ladies relative to details of another course to start Nov. 1.
11:45 a.m.—Left for Andover to speak to Essex County Health Association on "Medical Aspects of the Defense Program."
2:30 p.m.—Left Andover for Boston. Meeting of board of directors of Massachusetts Hospital Service, Inc., at which it was voted to sell individual memberships without pay roll deductions and without forming a group, but with a physical examination required and with a fee of $1 more per year than pay roll groups (maternity service not included).
5:30 p.m.—Arrived at Salem; cleaned up desk. Conference with maintenance superintendent, awarded contract for painting of hospital exterior to low bidder; left for home at 6:30 p.m.

Thursday, Oct. 9, 1941

8:30 a.m.-10 a.m.—Mail, dictating, routine data.
10-11 a.m.—Minor conferences.
11 a.m.-12 m.—Reviewed MODERN HOSPITAL data and made list of items to be done.
12 m.—Conference with Doctor Jegars of Boston University relative to medical students in their fourth year; training plan for internists.
12:30 p.m.—Conference with Doctor Inman, relative to forms for defense plans for use of Danvers State Hospital.
1-2 p.m.—Lunch with interns and discussion of committment forms.
2 p.m.—Conference with Mr. Kennard, regarding publicity for graduation.
2:30-4 p.m.—Conference with Mr. Stephenson, president of board (Doctor Lowd, pediatrician, to settle in Salem).
4:15-5:10 p.m.—Conference with office manager, studying new building equipment.
5:10 p.m.—Left for dinner meeting with Doctor Wilinsky, Beth Israel Hospital.

Friday, Oct. 10, 1941

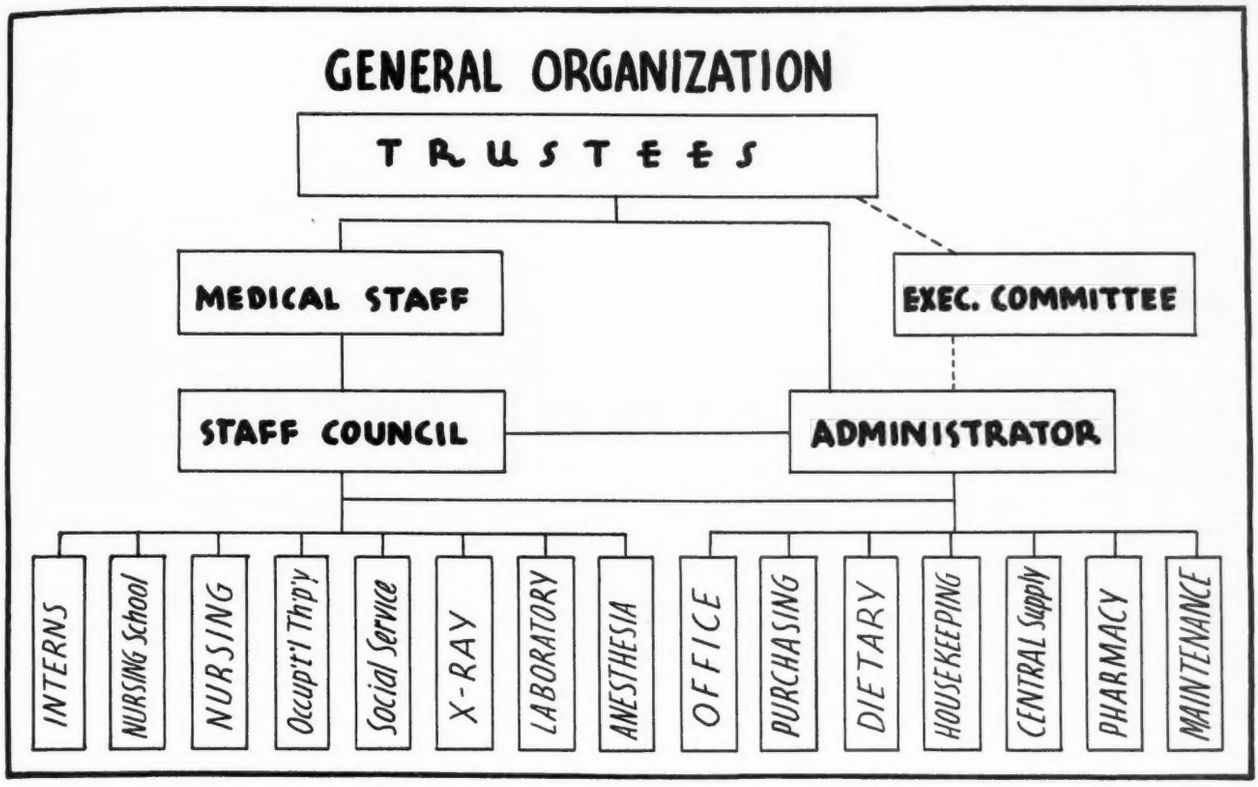
8:30-9 a.m.—Routine.
9 a.m.—Mail.
9:15 a.m.—Conference with assistant superintendent of nurses relative to her talk of Cooley Dickinson Hospital Ladies Aid on volunteer service.
9:45 a.m.—Staff conference for few words; enlist doctors to teach Red Cross first aid to 150 employes.
10:15-11:30 a.m.—Conference with staff president and secretary on surgical staff reorganization.
11:30 a.m.-12:30 p.m.—Conference in O.P.D. and record room relative to record problems and system.
12:30 p.m.—Lunch.
1:30 p.m.—Conference with O.P.D., social service special work and Miss Damon, credit.
2:15 p.m.—Conference with Miss Hoadley on dietary problems and items relative to training of volunteers.
3 p.m.—Dictation and discussion.
3:45 p.m.—Conference with office manager to review accounts receivable analysis.
4:30-5:30 p.m.—Conference with Miss Mears relative to study of equipment in the new building.
5:30 p.m.—Visit to air raid control station.

Saturday, Oct. 11, 1941

8:30 a.m.—Conference with Mr. Kimball relative to several projects of minor construction.
9:45 a.m.—Conference with Miss Booth relative to nursing details.
10:15 a.m.—Mail.
10:45 a.m.—Laundry problems with Mrs. Edwards.
11:30 a.m.—Conference with purchasing agent, Mr. Webb, relative to policies and purchase of various items.
12:15-12:45 p.m.—Conference with nursing department relative to change of office for nursing school.
12:45-1:15 p.m.—Lunch and home.

Sunday, October 12, 1941

9:30-10:30 a.m.—Review of night reports; checked with office and nursing departments; worked on new material.
7-9:30 p.m.—Work on data.



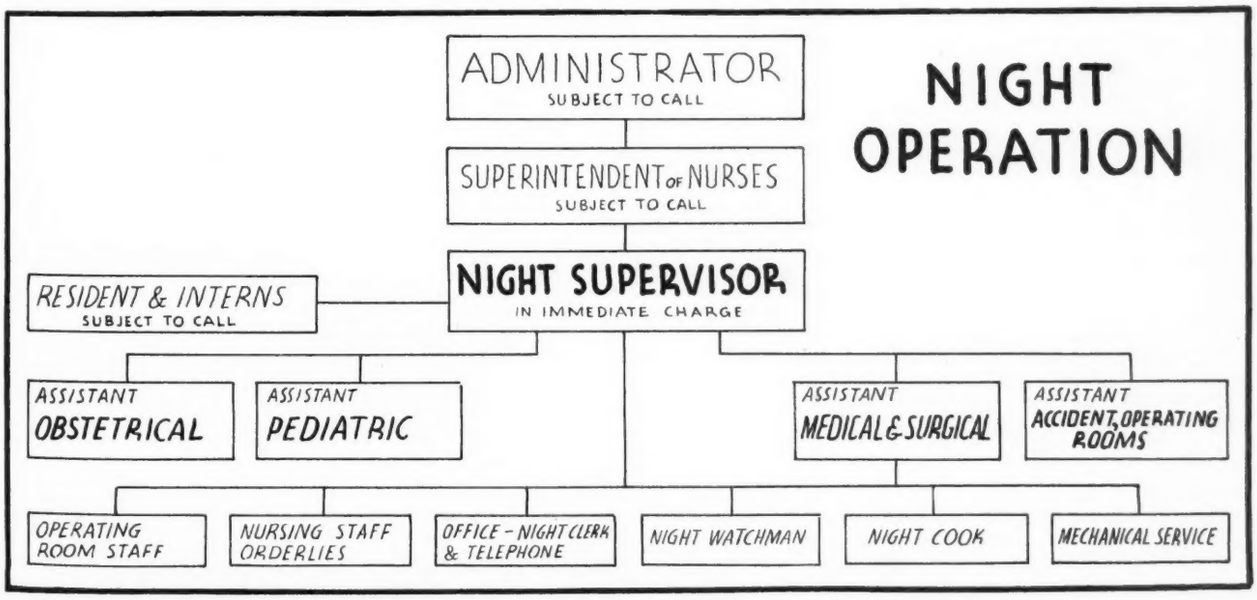
so that there will be a clear definition of duties and responsibilities. As a result of this study, organization charts of each department were prepared and many of them appear in the respective sections. The general organization chart accompanying this article shows the relation of the administrator to the trustees and the public and to the various departments of the hospital.

The administrative relations to the medical staff are carried out through the medical council, of which the administrator is secretary. The anesthetist, pathologist and radiologist, although all physicians, are also department heads responsible like other department heads for the smooth operation of their departments. In addition, they are active members of the medical staff and, indeed, in a sense act as the spark plugs to fire the enthusiasm and scientific zeal of the medical staff.

For the foregoing reasons, their place in the activity of the hospital cannot be indicated with exactness in an organization chart without making it too complicated for use.

Another aspect of the administrator's work that will be dealt with in greater detail elsewhere concerns public relations. With no public relations officer on a full-time basis in the hospital (although a publicity man does do some part-time work), the principal responsibility falls as usual upon the administrator.

Personnel administration also is a function that the administrator has not yet been able to delegate, except to the extent that this work can be carried through the heads of the various departments of the hospital.



Planning Salem's New Maternity

GEORGE A. CURTIN

A SURVEY of Salem Hospital and its service area in 1936 indicated that the population of Salem and of eight of the surrounding towns had a ratio of general hospital beds of only 3.1 per thousand people. To achieve even the conservative ratio of 4.6 beds per thousand, as recommended by the Committee on the Costs of Medical Care, would require an increase of 346 beds in the entire area.

There are at least eight general hospitals of various sizes in the area and some of the increased capacity would undoubtedly be provided by the other hospitals. It was decided, therefore, that the program for Salem Hospital would be in two major stages. The first stage would be a small addition (which was erected in 1937) providing a modern fully equipped x-ray department and in another unit of the same project (which, however, was not completed until August 1939) a staff lounge, library, interns' office, consultation rooms and clinical lecture room.

The second and more extensive stage of the expansion program would be the construction of a new wing for 49 maternity and 32 pediatric cases, housing a total of 81 patients.

This wing was completed in February 1941 and is the subject of this article. The result was a net increase in the hospital's capacity from 136 beds and 22 bassinets to 236 beds and 49 bassinets. Additional bed capacity for medical and surgical patients, of course, was provided in the existing buildings when the x-ray, maternity, nursery and delivery departments were moved to the new buildings.

Fortunately, the trustees and architects of the original hospital, built in 1917 and 1918, were men of vision, who had provided ample grounds and had erected fire-resistant buildings so designed and located as to allow for future expansion.

The original group, comprising the main hospital, operating building and domestic service building, joined by connecting corridors, faces north and is set back some distance from the main highway. This leaves ample grounds at what might normally be considered the rear and, therefore, the less desirable aspect of the group.

The southerly exposure and extended view afforded at the rear, however, actually favored expansion in this direction. Moreover, construction at the north and in front of the existing buildings would have unbalanced the original design, interfered with the logical development of the approach to the hospital and brought the patients nearer the noise and bustle of a busy highway.

Placing the new maternity and children's building in the location shown not only made use of the natural advantages of the site but also provided a location central to the main hospital entrance and to the food and laundry services and immediately adjacent to the surgery and the new x-ray department.

Common sense dictates that service facilities should be centrally located. In this instance, however, good planning indicated that the patients' rooms be placed at the outer end of the building to take advantage of the favorable exposure and view, to reduce traffic in front of patients' rooms and to remove patients from disturbing conditions incidental to the main service corridors.

This program was adopted finally, leaving for solution the problem presented by long traffic distances between service units and patients in a building approximately 200 feet long. The location of stairways at the extremities of the building was determined by state law and the elevators were placed at the junction with the existing main service corridor so that visitors, personnel and service trucks might enter directly therefrom, thus materially reducing traffic through the main corridors of the new building.

Certain subdivisions, such as the children's admitting and observation

CONSTRUCTION DETAILS

GENERAL DATA: New wing providing pediatric department in first story and obstetrical department in second, third and fourth stories.

CONSTRUCTION: Exterior bearing walls, faced with red, waterstruck brick with cast stone trim and backed with hollow structural clay tile. Interior frame, reenforced concrete with combination concrete rib and hollow clay tile floor slabs. Roofing, tar and gravel over insulation.

WINDOWS: Double hung wood with ventilating aprons and reversible hardware; insect screens, top hung all-over.

DOORS: Hollow metal frames. Interior doors, gumwood, flush type.

FLOORING: Flush terrazzo coved base, with terrazzo field in service rooms and with terrazzo border and asphalt tile field elsewhere.

WALLS: Hollow structural clay tile and steel studs. On all service rooms and behind and at ends of lavatories in patients' rooms and wards, encaustic tiled dadoes. In corridors, rubber dadoes. Other surfaces, gypsum plaster.

CEILINGS: Acoustical treatment of varying types and noise reduction coefficients on ceilings of all spaces, except stair halls, baths, toilets, minor service rooms and obstetrical patients' rooms. Corridor ceilings, arched.

HEATING: Low pressure vacuum system. Nurseries, delivery rooms and de luxe private rooms, filtered and humidified air to blenders. Elsewhere, exposed tube radiation.

VENTILATION: Mechanical exhaust system from conditioned rooms and all service rooms. Unit fan system.

LIGHTING: Delivery room, special fixtures. Desks, charting counters at nurses' stations and sterile preparation and solution rooms, fluorescent. Private rooms, wall night lights and floor lamps. In vestibule at nurseries with provisions for future installations in nurseries, delivery rooms and at entrance to observation and children's corridors, ultraviolet lamps. Elsewhere, direct lighting. Emergency lighting, gas fired generator serving all corridor night lights, stair and exit lights, delivery room and certain service rooms.

SIGNAL SYSTEMS: Toggle switch type nurses' silent call system with automatic direct speaker-microphone stations in private rooms. Visual type doctors' paging system. Doctors' in-and-out register system.

ELEVATORS: Electric automatic resistance control self-leveling type. Speed, 150 feet per minute. Walls of car enclosure, rubber covered. Power operated car doors; manually operated hatchway doors.

CUBICLES: Metal and glass cubicle partitions in children's wards and nurseries.

COSTS: Volume, 425,000 cubic feet. Cost per cubic foot, 64.4 cents. Cost per bed (excluding bassinets), $3,379. Total cost, exclusive of fees and furnishings, $273,690, divided as follows: general, $178,670; plumbing, $27,048; electric, $21,832; heating and ventilation, $22,182; elevator, $9,759; sterilizing equipment, $10,009; lighting fixtures, $2,457; supplementary contracts, $1,733.

and Children's Building

Stevens, Curtin and Mason, Architects and Consultants, Boston

department, the isolation department and the premature and isolation nursery units, likewise were located at this end of the new building but on the side away from the court formed by one wing of the original hospital building. An attempt then was made to group the service facilities in such a manner that those involving the greatest volume of service, such as the nurse's station, utility rooms and general nurseries, would be placed nearest the patients' rooms in preference to others, such as the diet kitchens, toilets and baths, involving a lesser volume of service.

While the original plans contemplated the use of subutility rooms or bedpan service toilets between all wards and rooms, economic conditions interfered with this program in its entirety. Some advantage was gained, however, by locating a limited number of these units to serve groups of patients more remotely situated from the main utility rooms. With the aid of these facilities and with the nurses' stations, main utility rooms and general nurseries located as near as possible to the patients, considerable progress was made in reducing travel distances.

The time and energy of a nurse frequently may be conserved and actual service to the patients improved if patients may communicate their needs directly to the nurse on duty at the station. This is particularly true in the case of private patients and, accordingly, an intercommunicating system was provided for each private room.

A decentralized food service system, with trays carried individually from the floor serving kitchens to each patient, has been the customary procedure at Salem Hospital. The satisfactory results obtained in the past determined the continuance of this method in the new building, although it was recognized that the distances between the serving kitchens and the patients' rooms would involve excessive traffic and delays.

EQUIPMENT COSTS IN MATERNITY BUILDING

BASSINETS	
Cabinets and mattresses	$2,166.75
CUBICLES	
Parts used in removal of old	115.00
DIETARY	
Diet kitchen fixtures	1,620.00
Food carts and trucks	1,549.43
Coffee tricolator urns	84.00
Electric toasters	114.70
Silver dishes for patients	330.85
FURNITURE	
Bedrooms	5,828.59
Doctors' room	145.96
Waiting rooms	267.70
Chairs, stools and desks	389.00
Tables for maternity and nursery	147.80
HOUSEKEEPING	
Curtains and shades	1,022.61
Mattresses and pillows	800.00
Linen hampers and trucks	298.95
LIGHTING FIXTURES	191.85
MEMORIAL TABLETS	514.65
MICROSCOPE	95.00
NURSING EQUIPMENT	
Chart holders	90.00
Servers (vacuum jugs)	285.60
Ophthalmoscopes, otoscopes and handles (3)	147.15
Scales	96.59
Stretchers	89.18
Cushions for examining table	13.50
REFRIGERATORS	1,683.00
SOLUTION EQUIPMENT	1,390.58
TRUCK FOR STOCK DELIVERIES (Central Supply)	49.36
	$19,527.80

Since all wards, with one exception, are four bed units, special enclosed trucks of four tray capacity were developed so that all patients in any one ward could be served by a single trip. The trucks are used to return empty trays, both from wards and from private patients' rooms although service to the latter is individual. The use of these trucks eliminates three fourths of the time and traffic involved in ward service and half of that for private service.

In assigning patients, it is customary to use the accommodations nearest the nurses' stations, reserving the more distant units for periods of peak demand.

The foregoing represent the major steps taken to conserve time and to reduce traffic distances, but the same endeavor was applied wherever possible to various minor details.

Conditions having determined that the new building would be devoted to obstetrics and pediatrics, the first conception of the general plan was to separate these two departments properly and to arrange each so as to offer every reasonable safeguard against cross-infections. Financial limitations ultimately restricted the building to three complete stories, with a fourth story of approximately half the length of those below. The natural contours of the site permitted the first story to be entirely out of ground yet level with the lowest or subground floor of the existing main service corridor. Owing to the presence of ledge rock over the entire site, however, a pipe space only was feasible below this story. A logical decision assigned the first floor to pediatrics, with the remainder of the building devoted to obstetrics, wards and semiprivate rooms being located on the second floor, with private rooms and the delivery department on the third and fourth floors, respectively.

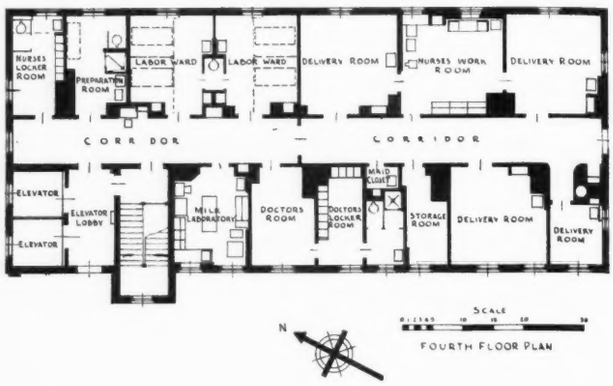
The relation of the floors of the new building to those of the older structure is such that the main approach to the new unit is directly from the main hospital entrance at the level of the private maternity patients' floor. Visitors to the ward maternity or children's floors are controlled by an attendant located at the entrance to the new building and reach their proper destination by means of the elevators or stairs without entering the private patients' section.

The final decision as to the size and type of patients' accommodations was reached only after various factors had received consideration.

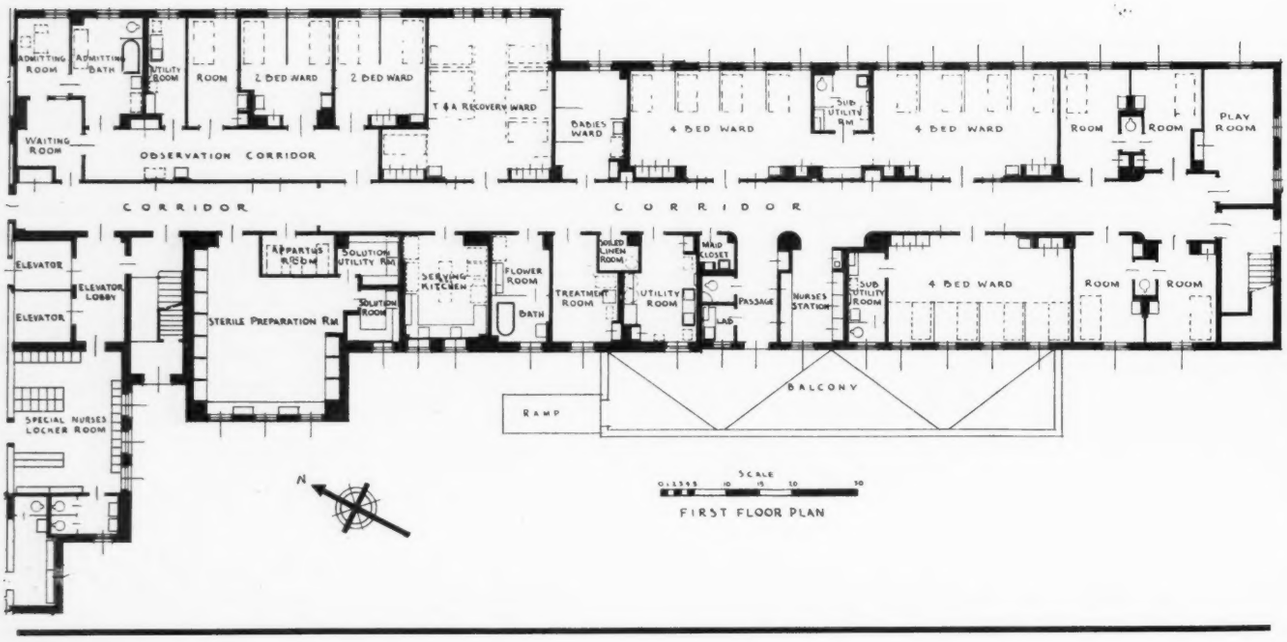
This was particularly true of the obstetrical department, the first concept of an ideal plan involving individual rooms with connecting toilets being abandoned, partly because of construction and operating costs and partly to cater to the means of prospective patients and their preferences for certain types of accommodations.

The final choice, therefore, favored private rooms, two bed semiprivate rooms and four bed wards, the only exception applying to the six bed tonsil and adenoid receiving ward in the children's department. The four bed wards for children were cubicled for obvious reasons, but cubicled wards for obstetrical cases were discarded as a survey indicated no real demand for this type of service. All wards that are not cubicles, however, are provided with cubicle curtain equipment.

Admissions to the children's department are handled through an admitting and observation unit placed at the entrance to this floor and comprising a waiting room, admitting office, bath, cubicled two bed wards and a single room, together with a



Here are shown plans of three of the four floors of the new maternity and children's building. The third floor, not indicated, contains private rooms and two premature nurseries and the isolation nursery with their vestibules.



small serving kitchen and utility room. These open into a subcorridor, in which is a nurses' station, separated from the main corridor by a glazed partition having communication openings. This affords a complete nursing unit, having direct contact with the main corridor only through one door, to be protected by sterilizing lamps and affording means of admitting and maintaining a child under observation for a definite period before transfer to the general wards.

An isolation unit served by a subcorridor arranged as described above for the children's admitting unit is located at the entrance to the ward maternity floor and consists of four single rooms for adults, a nursery and the necessary services.

An isolation nursery is provided on the third floor only since the private rooms are so arranged that each may serve in time of need as an isolation unit.

The general nurseries of the new building include individual cubicles for each baby, a scrubup lavatory and an adjoining service room approached through a vestibule. The vestibule serves as a sound cut-off, a barrier against entrance to the nursery proper except by the nurses on duty and as an examining room. In the vestibule are a scrubup lavatory, gown hooks and a counter with a glazed slide opening into the nursery. A sterilizing lamp is provided with provision for similar units in the service room.

The ceilings throughout are acoustically treated. The nursery may be viewed from the main corridor through openings glazed with special double glass having a high noise insulating value.

The basic layout of cubicles and the routine technic in the general nurseries were established by the type of individual bassinet used. The only types apparently available at the time comprised an integral bassinet and cabinet with hinged end shelf, an ideal unit from the standpoint of consolidating the cubicle arrangement and increasing the capacity of a given floor area as the width of the cubicles would be determined by the width of bassinet, with its long dimension at right angles to the rear wall of the cubicle. However, this arrangement involved the withdrawal of the entire unit for access to the cabinet section and the carrying of the baby in the nurse's arms through the corridor to the mother.

Criticism of these features resulted in the development of a special unit

Right: The formula room in new building. Below: Salem's special bassinet unit, consisting of a tilting bassinet with portable carriage and a separate portable cabinet unit. The baby visits the mother in the portable bassinet and is cared for by the nurse at the nursery cubicle.

The utility room is in two sections. Note the vent to pull out steam.

comprising two elements: (1) a 16 by 29 by 8 inch deep tilting bassinet, having its own portable carriage and (2) a separate portable cabinet unit arranged to nest below the bassinet and having a sponge rubber working top with a rubber snap cover and guard rail.

The cabinet unit is subdivided into two enclosed compartments with doors, one containing a daily linen supply and the other, a utensil tray, bottles of oil, alcohol and boric acid, and jars for sterile cotton balls, sponges and thermometer. Both elements of the bassinet assembly are similarly numbered and, in addition, the bassinet is equipped with a cardholder and card indicating the baby's name, sex, weight, length, date and time of birth, and the doctor's name.

The adoption of this bassinet assembly determined the arrangement and size of cubicles, these having an inside clear length of 3 feet and a depth of 2 feet, with the bassinet assembly having its long dimension parallel to the rear wall of the cubicle and with the cabinet doors accessible from the front.

Routine procedure requires a nurse entering the nursery to scrub up for five minutes and to wash hands before handling each baby. Scales are carried on a mobile table and a clean diaper is used on the tray for each baby. At each cubicle the portable cabinet unit is withdrawn forward, the baby is cared for on the working top, returned then to the bassinet and the cabinet unit restored to its place beneath the bassinet.

When the baby visits its mother, the portable bassinet unit is withdrawn and is wheeled through the corridor.

When the baby is to be examined, the doctor enters the vestibule, scrubs up, dons a gown and mask and the baby is brought to him at the counter between the vestibule and nursery. Instruments supplied by the nursery only may be used in the examination, each nursery being equipped with a tape measure, stethoscope, andoscope and an ophthalmoscope.

The nursery layout and routine admittedly do not conserve space and will impose some extra burden on the hospital and personnel, but the additional safeguards provided for the care of the baby should be reflected in the results.

While not an essential part of the obstetrical and pediatric departments, space was available on the first floor to provide a much needed sterile preparation unit, with adjoining separate solution and solution utility rooms. This department is completely equipped for the preparation of sterile solutions, dressings and trays and is located without the limits of the children's section so as to serve all parts of the hospital.

In developing the plans of the buildings as a whole, every consideration was given to factors that would assist the personnel in the proper care of the patients and that would reduce maintenance costs. As a consequence, a number of conveniences were provided, such as wardrobes on each floor for nurses' capes; split service main utility rooms on the maternity floors; rubber dadoes in all main corridors; encaustic tile dadoes in all major service rooms, baths and delivery rooms; terrazzo paving throughout with asphalt tile floors where a resilient covering was indicated in patients' rooms, corridors and similar nonservice locations; fabric wall coverings in private patients' rooms; an extensive use of varied types of acoustical treatment throughout corridors, nurseries, service rooms, children's wards, labor rooms, waiting and sitting rooms, and a full complement of metal cabinet equipment of the best quality.

Nurseries, delivery rooms and two de luxe private rooms are partially air conditioned by central systems controlling heating and humidification and are arranged for the future addition of cooling units, if desired. "Blender" units in the rooms permit local variations in temperatures.

Lighting fixtures are simple and of types best suited for hospital purposes, with fluorescent units used in the sterile preparation department, over the charting counters in the nurses' stations and for all desk lamps. Private rooms are lighted by means of a night light near the floor on switch control at the room door and with a portable adjustable floor lamp at the bed to serve for reading, examination and indirect illumination.

Provisions have been made for the installation of sterilizing lamps in all nurseries and their service rooms, in all delivery rooms and in the main corridors, to provide sterile fields where these are entered from the children's observation and the ward maternity isolation departments. For experimental and economic reasons, however, sterilizing lamps have been installed actually only in the doctors' vestibules at the general nurseries.

What the Furnishings Cost

WHAT does it cost today to furnish a room or ward? When the Salem Hospital opened its new maternity and children's building it had an opportunity to collect data on this subject. Of course, the war may affect some of the prices somewhat, although price control is keeping prices from skyrocketing.

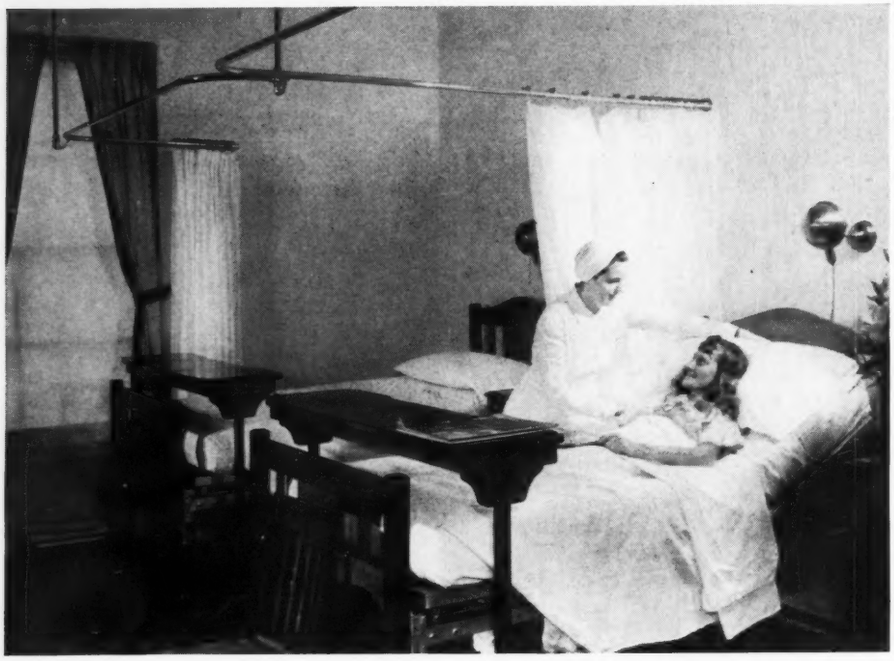
Given below are the equipment and furnishings costs for certain of these rooms.

Private Room (Maternity) Renting at $6.50 a day

Memorial tablet		$ 8.00
Furniture		
1 maple bed with spring	$48.59	
1 maple bedside cabinet	22.49	
1 maple vanity overbed table	34.48	
1 maple dresser and mirror	37.65	
1 maple straight chair	6.75	
1 maple armchair	19.00	
1 maple ottoman	7.92	
1 maple footstool	3.02	179.90
Furniture Accessories		
1 black hair upholstered innerspring mattress	$20.75	
1 vacuum jug	11.90	
1 wastebasket	2.43	
1 window shade	1.33	
1 pair draperies	10.65	
1 set covers for chair and ottoman	3.62	
1 valance board for draperies	.65	
1 pair chrome knobs for draperies	.41	
1 ash tray	.25	52.00
Bedside Cabinet Equipment		
1 bath basin, stainless steel	$ 3.30	
1 emesis basin, stainless steel	.77	
1 mouth wash cup, aluminum	.38	
1 6 oz. bottle bathing fluid	.02	
1 can baby powder	.14	
1 soap dish, rubber	.06	
1 bar soap	.01	
1 box toilet paper	.03	4.71
1 perineal tray, aluminum, containing:	$ .84	
1 covered can, aluminum	1.17	
1 16 oz. graduate, enamel	.68	
1 50 cc. glass dropping bottle	.32	
1 pair forceps	1.00	
1 forceps holder, aluminum	1.70	5.71
1 breast tray, aluminum, containing:	$ .84	
2 small covered cans, aluminum	1.60	
1 custard cup, enamel	.21	2.65
Total Cost of Bedside Cabinet Equipment		$ 13.07
1 mouth thermometer	$ .25	
1 thermometer jar	.17	
1 bedpan, stainless steel	4.74	
Miscellaneous Linen		
5 dresser covers @ 60c	$ 3.00	
5 chair covers @ 22½c	1.12	
5 bedpan covers @ 7c	.35	4.47
Bedding		
1 rubber draw sheet	$ 0.91	
10 sheets, cotton	10.00	
2 white blankets, blue bordered	7.80	
1 slumber blanket	5.45	
5 cotton spreads @ 98c	4.90	
1 candlewick spread	2.90	
2 feather pillows @ $2.25	4.50	
10 pillow cases @ 23½c	2.35	$38.81
Patient's Linen		
5 adult gowns @ 82c	$ 4.10	
5 abdominal binders @ 16c	.80	
2 scultetus binders @ 51c	1.02	
6 T binders @ 18c	1.08	
2 bath blankets @ 67c	1.34	
1 bathrobe	1.46	
5 bath towels @ $0.285	1.42	
5 face towels @ $0.115	.58	
5 face cloths @ $0.035	.17	
5 linen napkins @ $0.166	.83	12.80
Total Accessories and Equipment		$126.30
Grand Total for the Entire Room		$314.20

Summary

Total cost for 17 private rooms on maternity floor	$5,375.43
Main nursery for 17 babies	1,301.68
Premature private nursery, 2 babies, some used equipment	6.15
Observation private nursery, mostly used equipment	3.43
Diet kitchen	2,103.20
Utility room	415.42
Private waiting room, incompletely furnished	5.32
Private sun room	185.09
Flower room	30.85
Supervisor's station	45.46
Nurses' charting station	36.09
Instruments (in addition to nursery and utility room)	18.04
Medicine closet	40.63
Nursing textbooks	5.60
Nurses' waiting room	15.27
Nurses' lavoratory	9.48
Laboratory, not equipped (laboratory on children's floor, $95)	1.33
Maids' closet	22.83
Linens (in addition to those listed elsewhere)	36.20
Linen closet supplies (extra pillows, etc.)	38.86
Total Cost of Furniture and Equipment of Private Floor (17 private rooms)	$9,817.95



Bedside Nursing Care

The patient in this semiprivate room in Salem's new maternity building is being made comfortable by the nurse. Prime reliance for nursing care will soon be put upon the graduate staff; just now 70 students and 40 graduates carry the load.

SALEM HOSPITAL is in the midst of a transformation from an institution that relies primarily upon student nurses for the nursing care of patients to one in which the prime reliance will be put upon graduate nurses.

At present, the hospital has 94 students, but of these not more than 70 are regularly available for the care of patients. The others are in the preclinical period when most of their time is devoted to classes on affiliation or are on vacation or sick leave. The value of the services of these student nurses, when computed at 70 per cent of the value of a graduate nurse, amounts to an income to the hospital of $38,000 a year.

In spite of the large amount of student service, the demands of the hospital have necessitated a large increase in the amount of graduate floor duty nursing. The number of graduate floor duty nurses employed per month and the average total number of days worked per month for the last seven years are shown in the adjoining column.

The new maternity and children's building was opened in February 1941 and it was impossible to expand the school immediately to keep pace with the increased demands for nursing service. Because of the growing academic demands upon the student nurse's time, it is probable that the trend toward use of more graduate nurses will continue. If the hospital is to keep its academic standards high and yet avoid making too great an outlay for the school of nursing, it must meet these increased costs through larger tuition, greater school endowment or governmental grants.

General Duty Nurses Employed per Month for Seven Year Period

Year	*Average No. of Nurses per Month*	*Average No. of Days per Month*
1935	10	181
1936	16	288
1937	16	363
1938	16	397
1939	18	595
1940	20	597
1941	40	1134

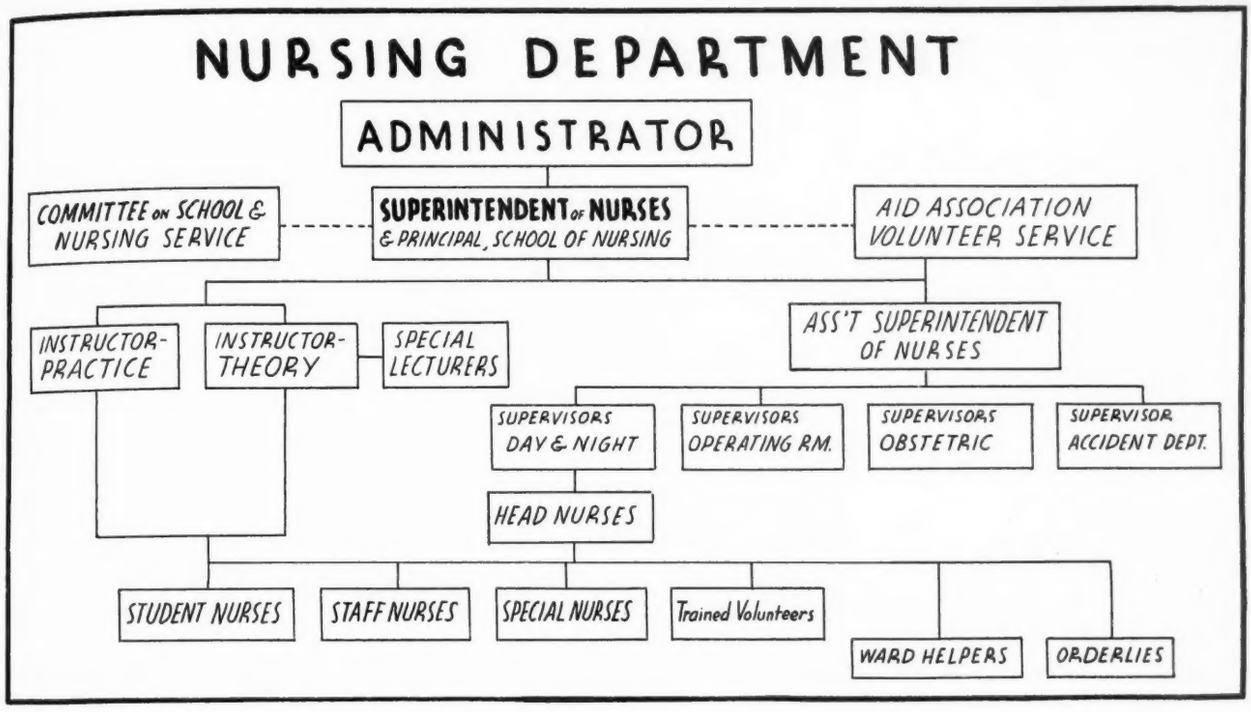
The growing number of graduate nurses on floor duty has necessitated certain changes looking toward permanence for these nurses. It is recognized at Salem that a high quality of floor duty nurses will not be attracted and retained by the hospital if they are treated with the paternalism necessary for student nurses.

The following steps to maintain the nursing organization have already been taken:

1. One day off per week.
2. More adequate allowances for nurses who live out ($20 a month plus meals).
3. An improved salary range for those in the lower paid group.
4. Permanent positions for floor duty nurses rather than engagement by the day.
5. A list of married nurses and a plan and schedule to use the hours that they have available.
6. Refresher courses for nurses who have not been active.
7. Well-planned staff education programs.
8. Arrangement of time so that nurses may study at near-by colleges, if they so desire.

In addition, careful thought has been given to methods of reducing fatigue. An ice water cooler has been placed midway along the corridor on each floor to save steps. Except on private floors where individual service continues, tray carriers have been provided that carry four trays at a time. Small step ladders are available in the linen closets. Maid service at mealtime reduces the amount of work required in serving patients' trays. Drug baskets are carried to the wards by porters from the central supply room. As rapidly as possible, modern gatch spring beds that crank up are being purchased to replace the older style which the nurses had to lift.

Other steps that are contemplated include: an eight hour day for all nurses; employment of medical and surgical ward teaching supervisors



and an assistant to instructors; installation of a simplified system of records on the wards which will make for greater efficiency and will save time; enlargement of the ward reference libraries; refurnishing and restocking of the fiction library with a plan for adding new books each year, and the construction of tennis courts.

The refresher course for graduate nurses open not only to those on the hospital's staff but also to any graduate nurse in the community consisted of a series of 16 lectures by the administrator, the superintendent of nurses and members of the hospital's medical staff. It was held on Monday nights from 8 to 10 p.m., with an average attendance of 80.

The hospital is now arranging a refresher course for older nurses who have not been active in the field for some time. This is to provide forty hours of group instruction and forty hours of ward experience. The course is to extend over a ten week period with 20 two hour sessions.

As the nursing shortage has become more acute, Salem Hospital has used various methods of meeting it. In addition to the refresher course for inactive nurses and the use of married graduates, the hospital fortunately has an experienced group of volunteer nurses' aids, whose work is described in the article on the women's auxiliary. Furthermore, through cooperation with the Household Nursing Association of Boston a group of girls taking training from this organization became available for assistance last August. Salem gives part of their practical training.

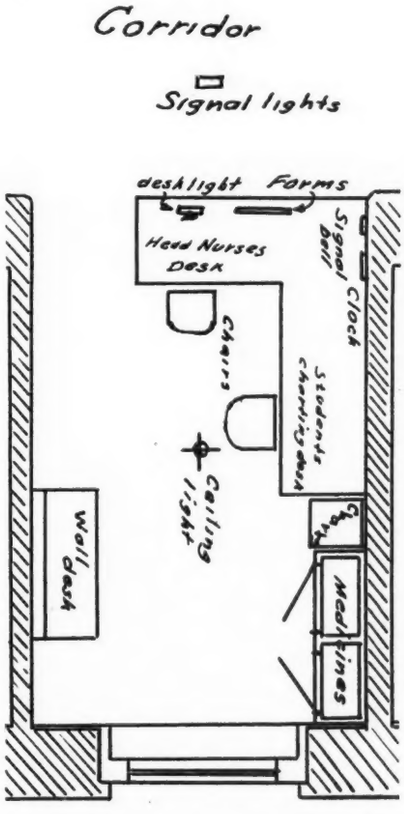


Diagram of typical duty station.

One male nurse, three orderlies and eight ward helpers are also employed by the hospital to supplement the nurses' work.

Consideration has been given to a plan to use mature high school girls on afternoons and week-ends. This has been discussed with some of the educators on the basis of work to fit into the students' schedules. The high school is only a two minute walk from the hospital.

The organization of the nursing service is shown on the accompanying chart. It parallels and dovetails at many points with the organization of the nursing school, but the tendency is increasingly to separate education and nursing service.

For the benefit of both students and graduates, a nursing procedure book has been compiled and a copy is available on each ward as well as in the school. This book covers such procedures as admission of patient, and afternoon and evening care, 78 different items in all.

In spite of the large increase in the number of graduate nurses employed and the improvements effected in the school of nursing, the cost of the nursing department per patient day has advanced only from $1.10 in 1932 to $1.23 in 1940. In view of the increasing salaries and other hospital costs, this increase of 13 cents seems modest.

An Old School

WHEN the school of nursing was established at Salem Hospital in 1879, there were in the United States only 11 other schools on the Nightingale plan. The oldest of these schools antedated the Salem school by just seven years.

In the sixty-two years the hospital has grown from 12 beds to 285 beds and the school of nursing has made commensurate changes.

Today the school has 94 students, almost equally divided among the first, second and third year classes. All must meet the requirements of both Massachusetts and New York State.

Students are asked to take an admission examination, which is a combination intelligence, aptitude, mechanical and personality test given by the nurse testing division of the Psychological Corporation. They pay $5 for these examinations. Age requirements are now from 18 to 30.

Tuition is $60 of which $25 covers the cost of books used during the preliminary term and the other $35 is required to cover breakage and laboratory fee. No allowances are paid.

A complete physical examination with chest x-rays and blood work is required on entrance and is repeated yearly; students are protected by Schick and Dick tests with immunizations if indicated. Inoculations against typhoid fever are also given. Classes are enrolled in September and February.

The nurses are housed in single rooms in a beautiful nurses' home located on the hospital campus several hundred feet from the hospital. Opportunity for rest, recreation and entertainment is amply provided in the home.

On the first floor are a large reception room and several small rooms in which the nurses may entertain guests. A grand piano and a radio with eight loud-speakers distributed to the sitting rooms throughout the home furnish opportunities for music. Sitting rooms and diet kitchens are on each floor. On the ground floor is a laundry equipped with stationary tubs, electric irons and a steam drier. The third floor has a hairdressing room equipped with electric driers. Bathrooms have a bath tub, shower, dental bowl and foot tub. A smoking room is provided. Tea is served to the nurses every afternoon.

The nurses' home also contains classrooms. There are a large lecture

Salem nurses do not lack for lounging rooms or for comfortable quarters for relaxing or entertaining. Music comes either from the grand piano or from a radio with eight loud-speakers distributed to the sitting rooms throughout the home.

Following the preliminary period, students spend most of their time in supervised practice in the diet kitchen, laboratories, out-patient department or on the ward floors.

Keeps Young

room-auditorium occupying a story and a half and additional classrooms and lecture rooms for smaller groups.

The curriculum totals 1019 hours of formal teaching, including 928 hours at Salem Hospital and the average number of hours at the three affiliated hospitals. In general, the suggestions of the National League of Nursing Education are followed in the curriculum.

The faculty consists of two full-time instructors, both nurses, and 21 part-time instructors, either physicians or heads of various departments in the hospital, including nursing supervisors.

In choosing members of the teaching and administrative staff an effort has been made to avoid inbreeding. The superintendent of nurses and principal of the school is a graduate of Peter Bent Brigham Hospital; her first assistant is a graduate of Presbyterian Hospital, New York City. Other members of the nursing staff come from 19 other hospitals. A considerable number have taken post-graduate work at hospitals other than the one from which they were graduated. About 40 of the regularly employed nurses are graduates of Salem Hospital, but 24 of these are on floor duty.

The superintendent of nurses recently was given a four months' leave of absence for graduate study in nursing at Teachers College, Columbia University. The nursing arts instructor has been given a leave of absence each summer for several years to teach at Simmons College School of Nursing. Another instructor teaches home hygiene at the Salem High School. Nine are taking courses in near-by colleges and 30 are taking the American Red Cross first-aid course. During the year all members of the staff who have not yet had the course in the last two years are to take it.

The school has applied for accreditation by the National League of Nursing Education in the belief that it is wise to align its standards with those recommended by leading nursing educators.

Teaching is aided by extensive educational equipment. The nurses' library contains 600 reference books, seven medical and nursing journals and 10 nonprofessional journals and newspapers.

The school owns a motion picture projector, used both for visual education and recreation, a new Chase

Teas and other parties are the responsibility of the student council. Assistance in the recreational program is provided by the Hospital Aid Association. All photographs by Russell T. Sanford.

Classrooms are in the nurses' home and are well equipped with models, charts, projectors, specimens and other visual aids to instruction.

doll, a teaching stethoscope, a brain model, two skull models, two skeletons, one set of bones making up a skeleton, a model of the respirator tract with heart, an ear model, an eye model, a manikin, a model of the kidney and bladder, a cross-section model of the spinal cord, a complete set of anatomical charts, plaster models of various organs, 24 dissecting sets and 10 microscopes in excellent condition.

The entering student spends five months in the preliminary period, with extensive class instruction and little actual work on the wards. More than half of the total hours of classroom instruction are provided during the first year and 547 of these hours are given during the first five months. During this period the students have a total of 112 hours of supervised practice on the wards, beginning with four hours in the fifth week and increasing to 13 hours in the twentieth week. For most of the period these students have seven or eight hours of practice per week.

Following the preliminary period, the student nurse spends most of her time obtaining supervised practice on the floors or in the laboratories, the diet kitchen, the out-patient department and the affiliating hospitals. When on the wards, the students work an eight hour day and a six day week.

Following the preliminary period, students are usually assigned first to the medical and surgical wards for two or three months' experience. Night duty is not given until the end of the first year. Work in the diet kitchen, out-patient department and operating rooms is assigned in the first half of the second year.

Affiliations are maintained for pediatric nursing with Children's Hospital, Boston; for communicable disease nursing with Charles V. Chapin Hospital, Providence, R. I.; for instruction in mental disease with Boston Psychopathic and Boston State hospitals, and for public health nursing with the Salem Visiting Nurse Association. All students take the work in pediatrics but may take either communicable disease or mental disease nursing. Only six students a year can be accommodated in the public health affiliation.

Nursing School Curriculum

Courses	*Class and Lab. Hours*
FIRST YEAR	
Anatomy and physiology	105
Microbiology	50
Chemistry	50
History of nursing	20
Psychology and study methods	20
Nursing Arts, I and II, (health education, bandaging, hospital housekeeping)	212
Professional adjustments I, Ethics	15
Nutrition and cookery	45
Diet therapy	15
Pharmacology and therapeutics	60
Introduction to medical science	15
Medical and surgical nursing (incl. urology)	60
TOTAL	667
SECOND YEAR	
Surgical specialties:	
Operating room technic	10
Gynecology	8
Orthopedics	8
Nursing, eye, ear, nose and throat	8
Medical specialties:	
Communicable diseases (incl. tuberculosis and venereal disease)	23
Pediatrics and infant feeding	60
Obstetrics	30
Dermatology	4
Mental hygiene	15
Sociology	15
Nursing care study	10
Family and community health	15
Neurologic and psychiatric nursing	15
TOTAL	221
THIRD YEAR	
Medical and surgical emergencies	15
Professional adjustments II	15
Occupational therapy	10
TOTAL	40
Hours at Salem Hospital	928
Hours at affiliated hospitals (average)	91
TOTAL	1019

Recreational activities for students have been aided by the Salem Hospital Ladies' Aid Association. A glee club, a dramatic club and various parties associated with the holidays are features of the recreational program. Tickets for concerts, lectures and plays are provided by friends of the school. In the summer gardening, badminton and picnics are featured.

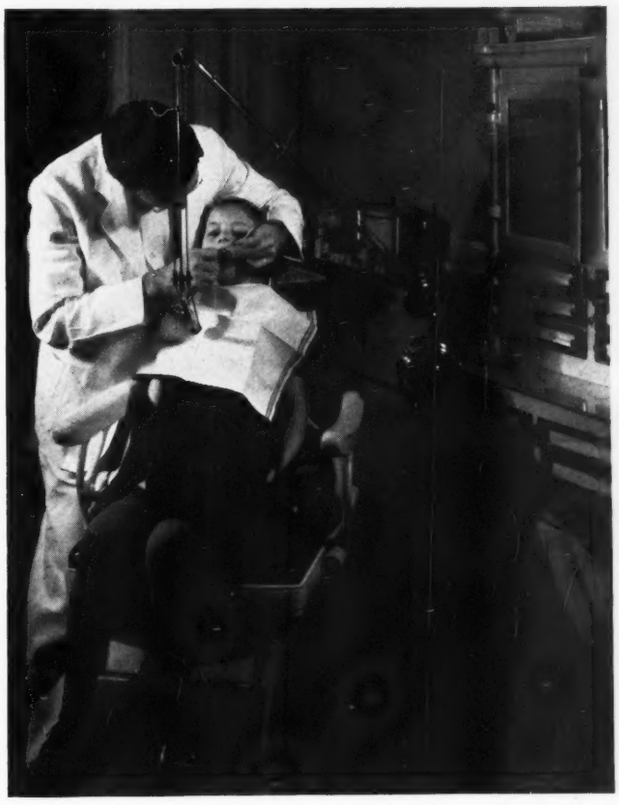
A system of student government, which is a compromise between complete self-government and complete faculty rule, is provided. An elected student council meets jointly with an advisory council from the faculty, each group having first met separately.

The student council takes responsibility for dances, picnics, raising funds for a scholarship and loan fund, all matters affecting the welfare of student body and hospital, and the maintenance of the best possible understanding between officers of the institution and the student body regarding methods and policies of the school.

A nursing school advisory committee has recently been set up to act as a directing body for the school under the general direction of the board of trustees. The committee is made up of a representative of the board of trustees (who acts as chairman), the president of the medical staff, a member of the nurses' alumnae association, three members of the Salem Hospital Aid Association, a visiting nurse, an educator from Salem State Teachers College, the administrator of the hospital and the principal of the school of nursing. This committee does not yet have responsibility for formulating the budget of the school. Its purpose is to maintain high educational standards.

The school has a distinguished record. The main objective has always been to train superior bedside nurses. Many of these nurses, however, have gone into executive work. Norwood Hospital, Norwood, Mass.; Addison Gilbert Hospital, Gloucester, Mass.; St. Elizabeth's Hospital, Elizabeth, N. J., and Salem Hospital itself are among the institutions that now or in the past have been administered by Salem graduates.

Dentistry at Small Cost



For 55 cents a visit Salem Hospital diagnoses and treats ward and clinic cases. A dental intern and two visiting dental surgeons make this service possible.

WITH a total investment of about $1200 in supplies and equipment and with an annual cost of approximately $1000 a year, Salem Hospital is able to give more than 1800 dental examinations and treatments each year. In addition, the hospital is making an important contribution to the advancement of dental education and to the growing rapprochement of dentistry with medicine.

How is the institution able to diagnose and treat dental ward and clinic cases for 55 cents a visit? This is made possible by the gratuitous services of two visiting dentists and one consulting dental surgeon and by the full-time service of one dental intern, who serves in the hospital for eighteen months before going out into private practice.

The dental department performs the following functions: (1) routine examination of all children in the children's surgical ward; (2) routine examination of diabetic patients; (3) examination of any other ward cases on request of visiting physician or surgeon; (4) private dental work by visiting dentists and dental intern on private patients when requested by patients and their physicians; (5) cooperative dental work on prenatal cases in the prenatal clinic; (6) operation of a dental clinic for referred adult cases; (7) hospital type of service for cases referred by the school dental clinic.

The hospital does not attempt to examine and treat school children, except those cases that are too serious to be treated as ambulatory patients, because the Salem board of health operates such a service for school children up to the age of twelve years. The dental department of the hospital treats preschool cases and patients over twelve years of age.

Since such a large part of the service is given without charge to clinic and ward patients, the hospital has had to restrict its work primarily to diagnosis (including x-ray examination), prophylaxis, extractions, temporary fillings, oral surgery, treatment of pyorrhea, dental hygiene, dental education and the care of fractured jaws. Under ordinary circumstances, the dental department cannot undertake to make plates, bridges, gold fillings or other restorative or esthetic work.

In selecting the dental intern, stress is put on the great value in having medical and dental interns live and work together so that they may develop mutual respect and understanding. Recently, an excellent candidate for a dental internship was refused by the hospital because he wished to live at home and thereby would have missed many of the hospital contacts considered helpful.

The dental staff is considered as an integral part of the medical staff, attending meetings of the medical staff and participating actively in the discussion of cases whenever a dental aspect is or may be important. The dentist in charge of the dental department has the same listing in the hospital annual report as the head of other departments.

LIST OF INSTRUMENTS AND EQUIPMENT

21 pair forceps (for extraction)
2 corpules
1 clinical thermometer
6 mouth mirrors
1 dozen rustless steel 1″ needles, gauge 25
6 rustless steel, 1⅝″ needles, gauge 23
1 irrigation syringe
1 scalpel handle
4 blades
1 instrument handle
6 instruments (scales)
200 cartridges, procaine hydrochloride
1 gauze packer
1 surgical mallet, 2 bone chisels
3 pairs surgical scissors
2 small rake retractors
2 periosteal elevators
1 needle holder
2 pairs cotton pliers
1 pair rat-nosed pliers
4 dental curettes
5 mouth props
1 mouth retractor
1 mouth gag
1 pair root pliers
1 chair
1 cabinet
1 sink
Desk and chair
Sterilizer
Dental light

Employe Relations

PERSONNEL administration at Salem is decentralized. There being no personnel manager, department heads employ, train, discipline and discharge employes in their respective departments in consultation with the administrator and in accordance with general personnel policies laid down by the administrator or the trustees.

Salem's salaries compare favorably with salaries paid by other hospitals of equal size in the same part of the United States. Salaries were advanced last May so as to keep employe turnover as low as possible. There is so much war industry in New England that it is hard to maintain an organization at the salary levels paid by hospitals during the last five years.

As may be seen by reference to the accompanying partial salary schedule, a large percentage of the employes receive full maintenance and the rest receive one to three meals daily at the hospital. The meals served are attractive, tastefully arranged and generous. This is considered an important morale builder.

SALARY SCHEDULE—RATE PER MONTH

Classification	Present Cash Salary	Starting Cash	Starting Perquisites	Starting Total	After Six Months Cash	After Six Months Perquisites	After Six Months Total	Top for Job After One Year Cash	Top for Job After One Year Perquisites	Top for Job After One Year Total
NURSING										
2d Asst. Supt. of Nurses[1]	$100	$100	$30	$130	$105	$30	$135	$115	$30	$145
Night Supervisor[1]	100	90	30	120	95	30	125	100	30	130
Asst. Night Supervisor[1]	80	75	30	105	80	30	110	85	30	115
Maternity Ward Supervisor[1]	100	95	30	125	100	30	130	110	30	140
Operating Room Supervisor[1]	125	100	30	130	105	30	135	110	30	140
Asst. Operating Room Supervisor[1]	90	85	30	115	90	30	120	95	30	125
Out-Patient Supervisor[1]	115	100	30	130	105	30	135	110	30	140
Science Instructor[1]	130	125	30	155	130	30	160	140	30	170
Nursing Arts Instructor[1]	105	125	30	155	130	30	160	135	30	165
Head Nurse[1]	85	80	30	110	85	30	115	90	30	120
Head Nurse[2]	105	100	15	115	105	15	120	110	15	125
Asst. Head Nurse[1]	70	6 mos. floor duty counts here			70	30	100	75	30	105
Asst. Head Nurse[2]	90	6 mos. floor duty counts here			90	15	105	95	15	110
Floor Duty Nurse[1]	65	65	30	95	70	30	100	No higher in this class		
Floor Duty Nurse[2]	85	85	15	100	90	15	105	No higher in this class		
House Mother[1]	75	75	30	105	80	30	110	85	30	115
Male Nurses III	90-100	90	20	110	95	20	115	100	20	120
Orderlies III	80	80	20	100	85	20	105	90	20	110

[1]Complete maintenance. [2]Live out; allowance of $20 per month to cover room and laundry; meals provided by hospital.

DIETARY AND HOUSEKEEPING DEPARTMENTS

Classification	Present Cash Salary	Starting Cash	Starting Perquisites	Starting Total	After One Month Cash	After One Month Perquisites	After One Month Total	After Six Months Cash	After Six Months Perquisites	After Six Months Total
Maids—Living in	$30-35	$30	30	60	$35	30	65	$40	30	70
Maids—Living out, 2 meals		35	15	50	40	15	55	45	15	60*
Waitresses—Living in	$30-35	30	30	60	35	30	65	40	30	70
Ward Helpers—Living out	$35	35	15	50	40	15	55	45	15	60

*Maids living out total $60 as compared with $70 living in. More faithful employes in this category may, as accommodations are available, have increased compensation by having the opportunity of living in. All employes in this class purchase their own uniforms, which the hospital launders.

Classification	Present Cash Salary	Starting Cash	Starting Perquisites	Starting Total	After Six Months Cash	After Six Months Perquisites	After Six Months Total	After One Year Cash	After One Year Perquisites	After One Year Total
Kitchen men—Living out 3 meals	$50-60	$50	20	70	$55	20	75	$60	20	80
Porters—Living out 2 meals	$60-75	60	15	75	65	15	80	70*	15	85

*After one year raised to $75, if demonstrated to be of real value. Foremen porters may be considered for $80. Uniforms furnished and laundered.

LAUNDRY

Classification	Present Cash Salary	Starting Cash	Starting Perquisites	Starting Total	After Six Months Cash	After Six Months Perquisites	After Six Months Total	Top for Job After One Year Cash	Top for Job After One Year Perquisites	Top for Job After One Year Total
Foreman[1]	$100	$100	16.25	116.25	$110	16.25	126.25	$120	16.25	136.25
Asst. Foreman[1]	70	65	16.25	81.25	70	16.25	86.25	75	16.25	91.25
Finisher[1]	60	55	16.25	71.25	60	16.25	76.25	No higher in this class		
Hand Ironers[1]	50	50	16.25	66.25	55	16.25	71.25	No higher in this class		
General Workers[1]	46.15	46.15	16.25	62.40[2]	50	16.25	66.25	No higher in this class		

[1]Fifteen meals per week = $3.75 per week, or $16.25 per month. [2]Minimum wage, 30c per hour, or $62.40 per month.

All regular employes are eligible for paid vacations after serving one year. The amount of vacation is indicated in the accompanying table. Terminal vacations are not granted. Two weeks' sick leave with pay is granted to groups I and II, with additional pay in special circumstances. There is no paid sick leave for group III. During sickness all employes are cared for in the hospital without charge. Several employes are members of the Blue Cross plan and others are enrolling. Those who belong receive private room service at no charge, the Blue Cross paying at the semiprivate rate.

Ten holidays are observed by the hospital: January 1, February 22, April 19 (Patriots' Day), May 30, July 4, Labor Day, Columbus Day, Armistice Day, Thanksgiving Day and Christmas. Schedules are arranged, if possible, so that employes have five of these 10 holidays. When service will not suffer and there is a good reason, an employe is permitted to take extra days before or after a holiday. These days are counted as part of the annual vacation. A Christmas shopping day or part of a day is granted to all who do not have a full week day off.

A comprehensive health service is provided for all employes, including student nurses and interns. No special safety program has been organized but a report is submitted on each accident to an employe.

Employes in all departments are encouraged to prepare themselves for advancement in accordance with their abilities. While no general program of training or education is provided for employes in the lower income brackets, floor duty nurses are encouraged to take additional training that will qualify them for head nurse or higher positions.

The total number of employes (excluding student nurses) has risen from 103 in 1932 to 276 in 1941. In spite of this rapid increase, 8 per cent of the employes on the pay roll last October had been with the hospital for ten years or more and 19 per cent for five years or more. If figured on the number of employes in February 1938, the percentages would be increased to 12 and 28, respectively.

The turnover per month in the nursing department for August 1941 was 9 per cent; in the dietary department, 4 per cent, and in the housekeeping department, 3 per cent. The high figure for nursing was due in large part to marriages and to variations in the census.

Vacation Schedules

Group I—Administrator, radiologist, pathologist, department heads, dietitians, supervisors, head nurses—one month's vacation with pay.

Group II—Student nurses, occupational therapist, social service worker, laboratory technicians, x-ray technicians, assistant head nurses, floor duty graduate nurses and male nurses in employ of hospital eighteen months or longer and office girls assuming Sunday and holiday schedules—three weeks' vacation with pay. Office girls without Sunday and holiday schedule—two weeks' vacation with pay.

Group III—Nurses' aids, maids, porters, laundry workers on salary, cooks, waitresses, orderlies, stock clerk, pharmacist, engineer, mechanics, painters, gardeners, floor duty nurses and male nurses in employ of hospital from twelve to eighteen months—two weeks' vacation with pay. Firemen—one week with pay.

Community Relations

ALL of a hospital's work has a bearing upon its public relations and may be considered as part of an institution's community relations' program.

The Salem Hospital program is based upon several objectives: (1) to give as good service to each individual patient as is possible, (2) to render as well-rounded service to the community as financial and professional facilities and resources permit, (3) to administer the hospital and its affairs in a manner that will earn and retain the respect and confidence of the community and (4) to continue to be responsive to public needs, demands and desires as they change.

A variety of technics has been used in forwarding this program. As in many other aspects of the hospital's work, 1938 was a turning point in its public relations' program. In that year it became apparent that either the hospital was to be "just another hospital" or it would need to make radical changes in its entire program. The trustees and administration decided on the latter course and employed a competent firm of public relations' and fund raising counsel to guide them.

One of the first steps in the revitalized program was to reorganize the board of trustees to bring in younger men and make the board more representative of the community. A second step was similarly to reorganize the medical staff. A third step was to undertake a survey of public opinion in the Salem community to determine the public's attitude toward the hospital. This was described in The Modern Hospital of January 1940. Not only did the hospital find out what the community thought and what it wanted but the trustees set out to provide the community's needs.

This, of course, required an expansion of the entire service program of the institution and an expansion of the building. Consequently, a fund raising campaign was imperative. The campaign met two important prerequisites of a successful drive: (1) the hospital put its own house in order insofar as it could and (2) the actual campaign was preceeded by a continuing, low-pressure educational program to acquaint the community fully with the hospital's service, aspirations, problems and opportunities.

The campaign goal was $450,000 and the total contributions and pledges were $332,240. Up to January 1 of this year the sum of $313,169 has been collected on pledges.

The fund raising campaign served as the impetus for doing many things that the hospital needed to do in any event. It also developed in the trustees, administration and hospital employes a greater sensitiveness

to the public relations' implications of their activities. Finally, because the campaign was run honestly and sincerely, it increased public faith in the hospital and good will toward it.

Following the campaign, the hospital has continued its low-pressure educational program. Some of the items in that program will be briefly discussed.

All patients are given a comment slip and their "constructive criticisms" are invited. While most of the comments received praise the food or the courtesy and thoughtfulness of the nurses and other personnel, occasional criticisms are voiced. These are carefully studied by the administrator and department heads with a view to eliminating the cause if possible.

Visitors are received at the front door by a hostess, employed full time by the hospital. Recently a Red Cross Gray Lady has been assigned to work with the hostess to escort those who are not familiar with the hospital and to do helpful things at the reception desk, sometimes done by page boys in other hospitals. This gives an added note of quality to the reception service.

Each year for several years the hospital has arranged a series of Sunday afternoon health talks by various staff members for the public.

The work of the women's auxiliary is described on page 78.

In a great many ways the hospital maintains contacts with community groups. Some of these contacts are by the administrator through his membership on the board of trustees or as an officer of the Massachusetts Association for Occupational Therapy, Salem Chamber of Commerce, American Red Cross, Salem Playground and Recreational Committee, Parent-Teacher Association, Salem Savings Bank, Ropes Memorial Mansion and Garden and the Hawthorne Hotel. Other contacts are made through the social worker and department heads. A definite effort is made to integrate the hospital and its personnel into community life.

Meeting halls of the hospital are used by the Red Cross for first-aid training groups and by various community groups, such as the garden club, business and professional women's club, nurses' alumnae, local nurses' association, medical society, dental society, dental hygienist society and x-ray technicians' society.

Through its progressive personnel policies, the hospital attempts to maintain a working force that is not only technically competent but loyal and enthusiastic. With more than 250 employes on the pay roll and nearly 100 student nurses, the opportunities for favorable community contacts on behalf of the hospital are large. The administration attempts to keep employes informed of hospital facts so they can be effective public relations' agents.

An annual report is published by the hospital and 1000 copies are distributed through the greater Salem area. While not outstanding in its composition, style or format, the report is well written and reveals most of the facts of interest to the general public. It has one great advantage over the reports published by some hospitals, namely, brevity. There is no monthly magazine or other similar organ.

Considerable material about hospital activities appears in the local press. A journalist is employed on a part-time basis to help get such material in suitable form for the papers. His work is that of a press relations' man and not a public relations' director.

The Salem radio station has been receptive to talks about the hospital's work, particularly recently when the radio stations have featured several interviews about defense preparations at the hospital and the work of women's groups.

National Hospital Day was energetically observed by the hospital in 1941, more attention being given to it than in previous years because the hospital had its new addition ready for public inspection. Open house had been held in February when the new addition was ready to go into service. Attractive posters in each department gave information about the service of that department. More than 4000 persons visited the building.

While minor improvements in the program might be made and its scope extended, it is hard to see how much more can be done in this direction until the administrator can have additional assistance either in this field or in some other aspect of his work, which would give him more time to devote to public relations. In fact, the hospital has now grown to a point at which it could probably well justify the employment, on at least a half-time basis, of a competent public relations' director. Doubtless, this will receive the attention of the trustees in due course.

The work of a fine professional photographer, William M. Rittase of Philadelphia, figures largely in the success of Salem's low-pressure educational program.

Laboratory Days—and Nights

THE development of Salem's clinical laboratories is, perhaps, as good a clue as any to the progressive spirit of the institution. The department is housed in an old section of the building and its physical quarters are neither attractive nor commodious. It is, however, well equipped and functions smoothly and effectively.

The year 1938 marks a turning point in the history of this department of the hospital as in so many other aspects of the institution's work. Prior to September of that year the department had been headed by a part-time pathologist and operated by two full-time and one half-time technicians.

In searching for a full-time pathologist, the hospital found one of its former interns who had taken a year's residency at Mallory Institute of Pathology and had followed this with two years' work as an assistant in the institute. In addition to the right professional and personal qualifications, he had the teaching point of view so important if the hospital was to make the improvements planned for its graduate medical education program.

With the appointment of a full-time pathologist, the laboratory's growth was accelerated. In 1934, for example, the number of tests, including basal metabolism examinations and electrocardiograms, was 17,861. This increased to 54,036 in 1941. Even more revealing, perhaps, is the average number of tests per patient day which increased from 0.36 in 1934 to 0.74 in 1940 and 1941. If maternity patients were excluded, the average in 1940 and 1941 would exceed one test per patient day.

Mere number of examinations is no criterion of excellence, of course. The pathologist is in intimate daily contact with virtually every member of the medical staff and thus is able to suggest routines or procedures so that the laboratory work is done with discrimination.

The pathologist is usually present at ward rounds, ward conferences and group discussions with the various services. The pathologist and also the radiologist and anesthetist often go to the patient's bedside with the visiting physician to correlate the work of the various departments in the interest of the best medical practice. Surgical pathology is analyzed immediately and discussed promptly with the surgeon in charge. The part that the pathologist plays in the various staff conferences is mentioned in the article on graduate medical education.

Rittase Photo

One of the five full-time technicians, each performing her specialty.

At present the department has five full-time technicians and a secretary. One technician does tissues; another, bacteriology; a third, basal metabolism tests and electrocardiograms; a fourth, routine urinalyses, blood chemistries and similar procedures.

This division of work increases efficiency, competence and speed and promotes better working relationships since the technicians do work they enjoy. Occasionally, the technicians exchange work so that each of them may be familiar with all phases of laboratory work when on call during off hours. A teaching program for technicians from Salem and other hospitals is carried on. The department is equipped to do various chemical determinations, including stone analysis, guinea-pig inoculations, Aschheim-Zondek tests, blood alcohol and blood bromide determinations. The laboratory also does monthly bacteriological examinations of milk, cream, water, food utensils, parenteral fluids, dishes and glassware in the hospital, reporting the results to the appropriate department head. Home service to patients in the neighborhood of the hospital is provided. Special tests are performed for Danvers State Hospital, North Shore Babies' Hospital and the Tuberculosis Sanatorium, as well as for doctors in various parts of the North Shore.

The laboratory is ready to function at any time of the day or night. It is routine to obtain twenty-four hour service on surgical specimens and to have consultations with the pathologist at almost any time Necropsies are performed promptly, to the gratification of the local undertakers. A certain amount of research work on new drugs is also carried on in the laboratory.

A fee schedule has been drawn up in consultation with the pathologist of the North Shore area, consideration having been given to the fee schedules of Boston hospitals and the New England Pathological Society. When a private or semiprivate patient is admitted, he is charged a flat $5 for laboratory work. This entitles him to $10 worth of work as computed by the fee schedule. Then he is charged another $5 for a second $10 worth of work. This continues until the patient has paid $25, after which all laboratory work needed is done without further charge. The maximum for semiprivate patients is $20. For ward patients, the same arrangement holds except that the charges are $3, $6, $9 and $12 (maximum).

In 1940 the laboratory had a total income on the books, not deducting for free service, of $29,500. Expenses for salaries, supplies and equipment were $14,400. Other expenses were not allocated to the department.

Anesthesia Is Under an M. D.

SALEM HOSPITAL admitted a physician anesthetist to its staff in 1939. Prior to that time, anesthesia was administered by nurse technician anesthetists, working under the direction of a physician. General practitioners were never encouraged to give anesthetic drugs.

The services of the physician anesthetist proved so popular with the surgeons that after the first two months of his stay, he was able to earn his guaranteed monthly income from the fees of private patients.

Most of the nitrous oxide and ether anesthetics are administered by the two nurse anesthetists. The physician anesthetist administers spinal and intravenous injections, cyclopropane and some nitrous oxide, ether and regional anesthetics. One nurse anesthetist is busy or on call for approximately twenty-nine hours and then is off duty for nineteen hours. Week-end duty is shared alternately between the nurses. The physician is subject to call at any time for any case requiring professional anesthesia service.

The hospital owns all of the anesthesia equipment, which includes five gas machines; it provides all supplies for the department and pays the salaries of the nurse anesthetists. In return, the hospital collects from "service," or ward, cases $2.50 for anesthesia service regardless of who gives it and collects $5 from private and intermediate patients if the anesthetic is not administered by the physician anesthetist. More than 38 per cent of the operations are performed on service cases. The average cost for anesthesia supplies is 50 cents per operation.

The growth of the department's service is indicated by the figures for 1938 and 1940. In the former year there were 2215 operations performed with nitrous oxide and/or ether and 438 with local or spinal anesthetics, giving a total of 2653 anesthetics. In 1940 there were 1687 operations performed with nitrous oxide and/or ether, 171 with intravenous anesthesia, 51 with cyclopropane and 1178 with spinal or local anesthetics, for a grand total of 3087. This is an increase of nearly 13 per cent in two years.

The anesthesia department also conducts all oxygen and other gas therapy for the hospital. Therapeutic oxygen is used extensively in the hospital, approximately 3½ per cent of the patients admitted during the first eleven months of 1941 having had some oxygen therapy. Most of this therapy (73 per cent) is administered by nasal catheter, 15 per cent is administered by oxygen tent and 12 per cent, by mask.

The contribution of a physician anesthetist is particularly evident in the preoperative and postoperative care. Surgical patients are visited preoperatively by the anesthetist and, after examination, he evaluates each patient's physical status, chooses the anesthetic agent to be used and orders sedation. Patients are followed postoperatively with special attention to any complication that may be attributed to the anesthesia. During the operation a complete anesthesia record is kept. This includes pulse, blood pressure, respiration, position of table, presence of cyanosis, nausea or vomiting, additional medicaments and any other factors concerning the anesthesia.

The teaching possibilities of such an anesthesia department have not as yet been fully exploited. There is no resident in anesthesia and only meager teaching of interns. When it is possible to obtain two interns on surgery, one of them may be assigned to give anesthetics to service cases under supervision.

There is some question as to the desirability of any teaching of anesthesia to interns beyond the basic fundamentals that are essential in general family practice. Were it not for the war, however, there seems to be little doubt that Salem Hospital with its extensive laboratory and other facilities could offer a valuable residency in anesthesia, particularly if this were coordinated with work in the Boston medical schools.

The caliber of work done in the anesthesia department may be inferred from the following facts about the training and background of the physician anesthetist:

Rotating internship at Indianapolis City Hospital, 2½ years of general practice, followed by a fellowship in anesthesiology at the Lahey Clinic in Boston. He has been certified by the American Board of Anesthesiology and is a member of the American Society of Anesthetists.

Occupational Therapy's Three Tasks

ONE of the newest departments at Salem Hospital is occupational therapy, which was not started until 1937. Although it is not a revenue-producing department, when starting it the administration and trustees had in mind that it might reduce expenses by shortening the stay of free cases both because of the treatment provided and because of the improvement in their morale.

When the department was started, the administration prophesied an annual cost of not more than $2000. Actually, in 1940 the cost of salaries, supplies and equipment was only $1600 and the department administered more than 1600 treatments and circulated over 8800 books and magazines from the patients' library. This low cost would not have been possible except for volunteer assistance.

Occupational therapy is available to all patients of the hospital upon the prescription of a physician. There is no charge for treatment. Children and adults, out-patients and in-patients are all accepted.

The detailed program, based upon the physician's specific prescription and upon the physical, psychological and social-economic status of the patient, is worked out by the occupational therapist.

Work Is Individual

Patients are treated individually both in the occupational therapy center and in the wards and private rooms. However, if several patients can be brought together, the stimulus of group activity is utilized when desirable. Detailed records are kept indicating the reaction and progress of each patient. A brief entry of treatments given is entered on the sheet carrying the nurse's notes.

The department is not limited to stereotyped methods of treatment but endeavors to provide mental or physical occupations or diversions particularly adapted to each individual patient. The usual occupations are arts and crafts, educational and recreational activities. The following tools and equipment are available.

SPECIAL EQUIPMENT AND QUARTERS ARE PROVIDED

For Shoulder, Elbow, Wrist or Hand Motion

1 table loom
1 braid weave loom
4 knotting frames
knitting equipment
blockprinting equipment
woodworking tools
leather work tools
metal work tools
typewriter
games with counters or "men" in graduated sizes

For Hip, Knee or Ankle Motion

1 bicycle exerciser

For Light Bed Activity or Diversion

weave-it frames
sewing and embroidery equipment
games and toys
1 portable phonograph
1 hospital book cart
1 cart for play equipment

Cheerful quarters are provided the occupational therapy center.

By adjustment of height and position and by use of various materials and technics this equipment seems to be adequate for the treatments required. It is interchangeable to a certain degree in its therapeutic application. All these devices may also be used in activities directed to build up morale.

Until the hospital is able to afford a trained librarian, the patients' library of 700 volumes is housed and supervised by the occupational therapy department. Books and periodicals are donated and, in addition, the Salem Hospital Aid Association has given funds for the purchase of recent books. The suitability of books for hospital use is determined by means of careful reviewing carried on by an active committee of the Aid Association. Games, puzzles and writing paper are also made available to the patients by the library.

Red Cross Gray Ladies, especially trained for library service, visit all interested patients with the book cart three times a week.

Under the supervision of the occupational therapist, the Gray Ladies visit or read to patients upon request, promote monthly parties and rhythm band activities in the children's ward.

A course dealing with occupational therapy and diversions for the sick is a part of the student nurses' training. The occupational therapist gives this instruction. The preliminary students receive an orientation lecture. The senior students have 17 hours of instruction covering both practical and theoretical work.

The occupational therapy department has three main functions: (1) to teach the value of proper mental and physical occupations for the sick, (2) to encourage and supervise diversional activities among the patients and (3) to administer prescribed occupational treatments, the purpose of which may be to increase function of joints or muscles, to stimulate circulation or to assist the patient in making a difficult adjustment. The majority of patients, both those referred for treatment and those who do not require special attention, need some type of diversion. By providing wholesome interests, worry and discontent are mitigated.

Newest venture of the Hospital Aid Association is the service shop opened last month for the conveniences of staff and visitors. Light lunches, sodas, cigarets, toys, books for children, magazines, greeting cards and useful articles for nurses are sold. There are one full-time and one part-time employe with 50 volunteers signed up to assist.

Ladies of Salem!

DESPITE the fact that at the time of the founding of Salem Hospital in 1873 there was unanimously adopted a policy that since "the ladies are running everything else in Salem we men will keep the hospital entirely in our control," it became evident through the years that community support could not be fully realized without enlisting the aid of public-spirited women.

As part of the new program for the hospital conceived and executed in 1938, which marked a turning point in its affairs, there was included a women's auxiliary known as the Salem Hospital Aid Association. It was the hope that the interest of the ladies, coupled to the work that the men had been carrying on, would assure the hospital's future success.

This hope was soon realized. Aug. 10, 1938, stands as a red letter day in the institution's history, for it was the occasion of a luncheon at the hospital attended by those women who had been appointed to the executive board of the association. At that time initial plans were formulated for the women's group, a temporary chairman and secretary were appointed and a constitution committee was named to formulate a set of by-laws.

It was decided to have three classes of members—honorary and sustaining, who would pay $5 a year, and active members who would pay $1 a year. One thousand and eighty-five invitations to new members were issued, with a response of 226 acceptances, of which 73 were sustaining and 153 active, this number exclusive of the 23 officers and directors.

The next step was to conduct a careful survey of the activities of women's groups in other hospitals from which could be organized a volunteer service adapted to Salem's individual needs. Work actually started in December of that year with a tea given for the new members at the nurses' residence. Today there are 440 members.

The list of standing and volunteer committees as outlined for 1941-42 includes: membership, ways and means and finance, volunteer service, publicity and education. Under volunteer activities appear: occupational therapy, including shop, book reviewing, children's parties, Red Cross Gray Ladies, Red Cross nurses' aids, clinics, surgical dressings, secretarial work, ushers, nurses' activities, motor corps, flowers and decorations and service shop.

The work of some of these specific committees deserves special mention. The first Gray Ladies and nurses' aids services were inaugurated at the beginning of 1940 with 13 Gray Ladies and 12 nurses' aids having successfully completed the required courses under the auspices of the Red Cross during the previous fall. Gray Ladies' duties include book cart rounds, occupational therapy shop work, clinical exhibits, children's parties, record work and visiting. Nurses' aids give their service in the wards and in the out-patient department. The present group includes 40 trained workers.

Volunteer service was given in the prenatal, well baby and tonsil clinics each week during 1941, as well as daily assistance with records and filing. Groups have done surgical dressings each week and volunteers have served daily in the supply room.

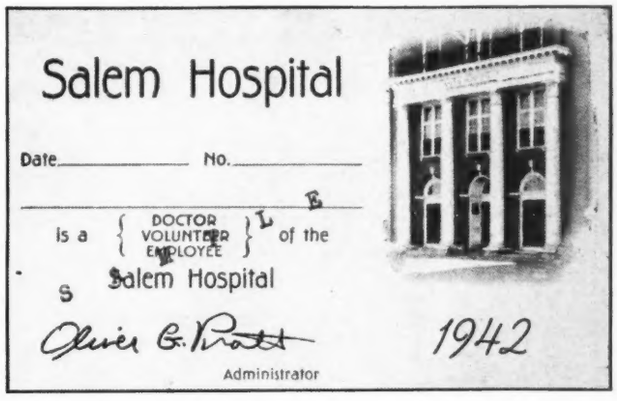
To take care of vacancies during the summer months a group of juniors from 14 to 18 years is invited to carry on during July and August.

The committee on decoration was responsible for decorating the hospital for the Christmas holidays and the committee on nurses' activities among other services rendered gave a tea for the incoming student class, arranged a series of lectures for the nurses and established a glee club and a dramatic club.

The chairman of outside sewing collected during November and December almost 1000 pieces, which were worked on by the various sewing circles in the city, and the ways and means committee arranged a benefit performance netting $1600.

Looking over the statistics we find that a decade ago there were only 130 current contributors to Salem Hospital; today on its rolls appear the names of more than 4000 interested citizens who are glad to contribute to the maintenance of a first-class community hospital.

Defense Preparations



Identification cards are provided so that employes can get through traffic.

WHEN to the rest of the country war seemed remote and far away, hospitals of the Atlantic Seaboard and of New England, in particular, were making plans for civilian defense.

Salem Hospital was one of the first to take steps in this direction. Whether this was the cause or the result of Oliver Pratt's selection as secretary of the medical committee of the state defense council appointed by the governor is less important than to know that through this connection the hospitals of Massachusetts have been actively represented in all discussions of the subject.

While Mr. Pratt's work on the state committee has been extensive and time consuming, we are concerned here with the defense preparations made at Salem Hospital. These preparations can be conveniently divided into six sections.

Organizing Staff and Volunteers

The first consideration, of course, was the enlistment and maintenance of an adequate staff of competent personnel in all aspects of hospital work. The medical staff was carefully reviewed to make sure that competent representatives of each specialty would be available even after the federal government had taken a generous proportion of physicians. The entire medical profession of the area has been classified and plans made for obtaining replacements whenever needed.

The nursing school has increased its classes to the maximum that the hospital can care for properly with the present volume of clinical material. This permitted an increase of five in the school enrollment. Various steps, particularly increased salaries, shorter hours and larger allowances for nurses who live out, have been taken to retain the services of present nurses. Volunteers and ward helpers are being used in many positions. One refresher course for older nurses has been given and another planned. The federal government made a grant of $1000 to assist in this nursing program.

The program of volunteers at the hospital, organized through both the Salem Hospital Aid Association and the American Red Cross, has been expanded markedly to provide a larger reserve of women with enough training to be of assistance in emergencies. In addition to the regular work carried on in the out-patient department and through the Gray Ladies, other groups make surgical dressings for the hospital to build up a large reserve for emergencies. Practice mobilizations of the volunteers have demonstrated that they can respond to a call within fifteen minutes.

Another step in the defense program is adequate health protection of the trained personnel. Last summer all employes were given routine inoculations against typhoid.

Educating Employes

An intensive program of education of employes so that they will be ready for all emergencies was undertaken last summer. Additional trained night watchmen were employed but until the outbreak of the war none of the many exits of the hospital was closed off during regular hours.

An ample supply of serially numbered identification cards was obtained so that employes living out will have no difficulty in being identified and getting through closed traffic to report at the hospital in case of emergency.

The second major part of the defense preparation deals with emergency organization. Plans have been prepared on paper for meeting emergencies of various magnitudes, *e.g.* 20 casualties, 50 casualties, 200 casualties. The hospital personnel is in the process of being trained intensively in the routines that have been established. Separate programs are set up for daytime casualties and those occurring at night.

Plans for Emergency Staff

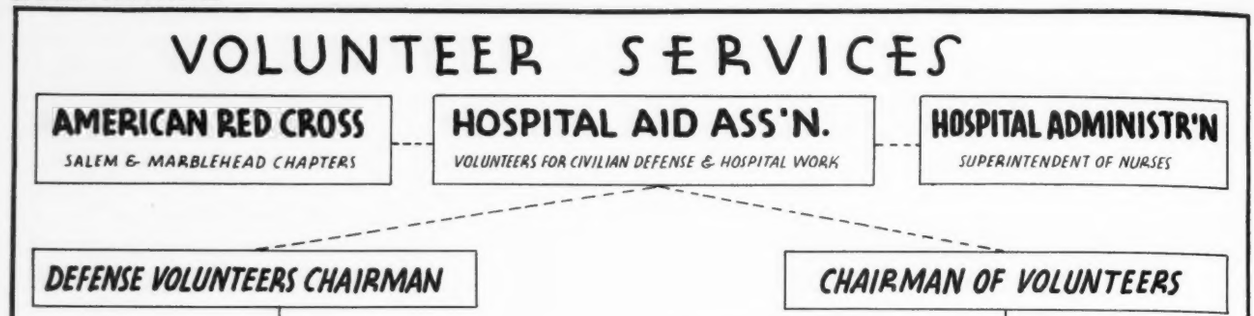
The hospital emergency organization is divided into four parts: major surgery, shock ward, out-patient department (minor surgery) and wards. For major surgery there are two crews of doctors and three crews of nurses each working eight hours. Doctors are on six hours and off six; nurses, on six and off twelve.

The shock ward crew is under the direction of the pathologist and includes the resident, one intern, two graduate nurses, two student nurses and one nurses' aid for each eight hour shift.

The out-patient department will be manned by an experienced surgeon, three interns, three graduate nurses, six student nurses, three nurses' aids each eight hours, the barber (to assist in preparation of head injuries), two volunteer clinic record workers and two clinic managers.

Each of the five wards where casualties will be cared for is under the direction of a head nurse by day and an assistant head nurse at night. Each one has, in addition to the usual personnel, a volunteer ward secretary. The surgical and children's wards also have nurses' aids. The central supply service would go on a twenty-four hour basis with

SALEM HOSPITAL



one graduate and four volunteers each eight hours.

Routines for treatment of shock, burns, fractures, head injuries, spinal injuries, penetrating wounds of the abdomen, dental casualties, and nose and throat casualties have been written out.

The third phase of defense preparation concerns the physical plant. Fortunately, this is fire resistant and bomb resisting except for a direct hit. There are exits that can be used by patients on three different ground levels owing to the fact that the hospital is built on a hilltop. Prices were obtained for driving wells on the hospital's property and tieing in to the hospital's water mains. It was felt, however, that this was a proper responsibility of the city of Salem and so no steps were taken by the hospital itself. No provision has as yet been made for sewage disposal if the mains are damaged. Because the hospital stands on a hill, the sewage would naturally drain away from it.

Salem Hospital was already equipped with an emergency lighting unit operated by illuminating gas. It was decided, however, that this was not sufficiently reliable, as the gas mains might be ruptured by the same kind of an attack that would destroy the electric service. Consequently, it has been adapted to operate on either gas or gasoline and to cut in automatically in case of power failure. This power unit is inspected and tried out on alternate days by the hospital engineer, who reports its condition to the administrator. In addition, a number of portable battery lights with powerful beams have been purchased and stored at various locations. These need frequent inspection, of course, as the batteries tend to become weak even when the lights are not used. Also, each nurses' station has an electric lantern containing two No. 6 dry cells. If dry batteries become unobtainable the hospital can replace these lanterns with similar ones operated by wet cells.

The hospital's fire regulations have been carefully reviewed and more detailed consideration given to the small proportion of certain buildings that have wooden roofs. The location and supply of extinguishers in areas subject to fire have been carefully checked. Five pound paper bags of sand have been placed in proper locations to use in combating incendiary bombs. Attics have been cleared of inflammable materials.

The Salem Hospital Ladies' Aid Association has made a survey of the community to determine the number of army cots in the homes of members and to arrange with the motor corps for delivery of these cots to the hospital in time of need.

Consideration has also been given to all steps that would need to be taken if blackouts become necessary. The following steps are planned in this connection:

At dusk each day various department heads are charged with the responsibility of seeing that blinds on all windows, including skylights and penthouse windows, are properly drawn. This trains the employes and makes it possible to effect a complete blackout, when necessary, in the least possible time.

When blackout orders are issued the fireman at the boiler house will pull the switch on all outside lights, the night watchman will put out all entrance lights and the night supervisor will be responsible for the enforcement of complete blackout regulations in the hospital until she can be relieved.

Black twill has been placed over glass doors. This is fastened by grommets over round-headed wooden screws and can be rolled up in the daytime. Opaque building paper has been placed on many transoms. In certain corridors where lights will be necessary during a blackout, there are inside screens on hinges; these have been covered with

building paper and are open during the day and closed at night.

The main building is equipped with dark shades, which are satisfactory. In the new building the shades are light colored, so at present the routine is to use only night lights. In some places the circuits are controlled to prevent full illumination. Lights in staircases have been replaced by globes of low wattage.

In some cases it has been necessary to put a little black valance at the top of the window and to fasten bits of plywood or cardboard at the sides to cover cracks. Glass in some of the windows is painted for 2 or 3 inches up from the bottom. Special care is taken in the operating department, accident department and delivery rooms, where it will be necessary to carry on activities during blackouts.

The hospital has purchased and keeps constantly on hand sufficient equipment (beds and bedside equipment) for the bed care of 200 casualties without lowering the level of care of the population now served. Facilities are adequate to care for 500 ambulatory wounded each twenty-four hours. Supplies are on hand to keep the hospital running for a minimum of four or five days even if all transportation facilities are paralyzed and the kitchens cannot function. These include medical and surgical supplies, food and fuel. For example, 25 pounds of sulfanilamide powder and 5 pounds of sulfathiazole powder as well as many tablets are kept in reserve.

A blood and plasma bank capable of storing enough for 96 transfusions is ready for immediate use at all times. Citizens of the hospital's service area have been requested to donate blood to increase this supply. Fourteen periods per week have been set aside to receive blood; five periods are in the evening. The hospital has two respirators.

The hospital also has made a careful inventory of the community facilities that can be called upon for added supplies of canned goods, gauze, sheets, instruments, soap and other requirements. Women's groups are saving burlap bags in case sandbagging seems desirable.

The hospital is working in close cooperation with the transportation committee of the local Committee on Public Safety on the matter of transporting casualties and sending out emergency squads with proper equipment for care of burns and injuries. It also has worked out with the telephone company a plan for controlling telephone traffic in an emergency and has a plan for handling messages without the telephone, if necessary.

The final section of the defense preparation deals with public relations. The public is being informed of the various steps taken by the hospital to meet emergencies. On October 27 a meeting of 40 leaders in the civic and industrial life of the community was held in the hospital to give them details regarding the hospital's plans to date. This meeting was adequately reported in the local newspaper so that everyone in the community could know about the hospital's plans.

Visitors are being asked not to come to the hospital for the present, except when necessary. Gray Ladies are being trained to handle visitors and to give out information to meet the flood of inquiries from anxious relatives that would descend upon the hospital should there be a bombing or other serious catastrophe.

Arrangements have been made with the local radio station to advise the hospital of any storm warnings in New England. This may give extra time for preparation.

The hospital has a separate wing housing the operating suite and, in emergencies, operations could be performed in the delivery rooms or the out-patient department. Experience in England with underground operating rooms has not been too encouraging.

To date, plans have not been worked out for camouflaging the hospital. This would not be too easy to do because of its prominent position on a hilltop. On the other hand, if raids should come at night and the hospital were well blacked out and if there was not too much moonlight or starlight, it would probably not be attacked since it is at some distance from the industrial section.

Social Planning for Patients

THE social service department is under the supervision of and directly responsible to the administrator. It serves both in-patients and out-patients.

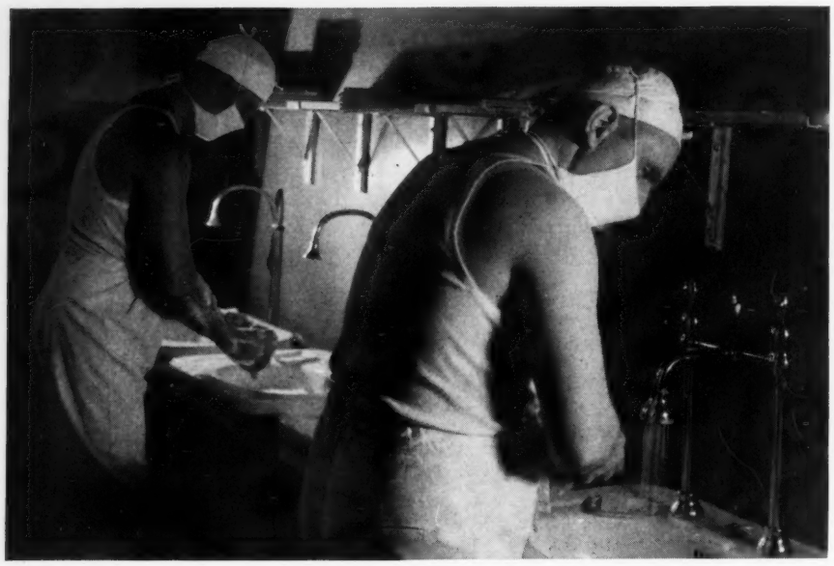
In addition to handling the matter of financial eligibility of out-patients, as described in the article on page 83, the social worker has principal responsibility of making a social plan for each patient in need of this service. By this means the patient obtains through the appropriate local social agencies whatever assistance he needs in the way of special diets, medicines, artificial appliances, material relief, convalescent care, employment or other appurtenances to successful treatment. A fund provided by the Hospital Aid Association can be drawn upon in emergencies.

All prepartum cases are referred to the department so that the women may subsequently be put in touch with local nursing agencies for guidance and supervision in the home. Chronic disease patients also require special help.

After the patient's discharge from the hospital, home visits are made to be sure that the prescribed treatment is being followed. Patients who fail to return to the clinic on the agreed date are also visited; frequently, new problems have arisen that require further aid for the patient or his family.

The social worker carries on an active teaching program for student nurses, Red Cross Gray Ladies, nurses' aids and expectant mothers. The program for the last named group is aided by the clinic physician, dental intern, nurses, outpatient supervisor, dietitian, occupational therapist and the Gray Ladies.

Close cooperation is fostered with the public health department, visiting nurse association, other clinics and hospitals in the area, the local tuberculosis association, the department of public welfare, the public schools and the Y.M.C.A.



Regulations for Operating Rooms

1. The ward service is to have the choice of operating room and choice of time on the schedule for either service or private cases.

2. The doctors' dressing room is to be used exclusively by staff members. Only staff doctors are allowed in this room from 7:30 a.m. until all operations are over and the doctors have changed their clothes and left. All those who desire to observe operations or to go to the operating room when operations are in progress must wear gowns, caps and masks.

3. Two rooms and personnel are to be reserved for the ear, nose and throat department for clinic tonsils from 11 to 12 o'clock on Tuesdays and Fridays in the summer and on one day in the winter, according to the needs.

4. The time that an operation is scheduled is the time that the operation is supposed to start rather than the time at which the patient is to be moved from the ward to the operating room. Surgeons and the nursing department should, therefore, anticipate their moves by at least fifteen minutes if the operation is to function on time.

Schedule

1. The operating room supervisor is vested with the responsibility of determining the operating schedule. It will be necessary for the supervisor to consult with the physician-anesthetist in determining the final schedule, definitely closing this schedule at 5 p.m. at the latest; it will then be her responsibility to notify the doctors involved of the time of their operations next day.

2. The operating schedule is to be closed at 5 p.m. or earlier if the schedule is full.

3. Doctors who are not able to meet their time on the operating schedule will kindly telephone the operating room and advise how late they expect to be. If no notice is received and if twenty minutes has elapsed beyond the time scheduled, the operating room supervisor is instructed to proceed with the next case.

Specimens

1. Septic specimens removed at operation shall not be opened in the operating room.

2. In all cases in which a frozen section is planned in connection with operation, it is the responsibility of the operating room supervisor or her assistant to notify the pathologist as well as the surgeon. As the pathologist spends certain mornings at the medical school, it is wise to reach him at the laboratory in this hospital during the preceding day.

Anesthesia

1. Cyclopropane is to be used as an anesthetic only when all precautionary measures and safeguards are enforced and when agreed upon by the operating surgeon and physician-anesthetist.

2. The anesthesia department is to care for all anesthesia and oxygen therapy equipment.

3. In case of major surgery under local or any other type of anesthesia a member of the anesthesia department must be in attendance.

4. The anesthesia department is responsible for all anesthesia in the delivery department and the dental department and for all oxygen therapy apparatus and equipment, as well as the anesthesia in the operating room. Emergencies in any of these other departments might, therefore, upset operating schedules.

Surgeons by Invitation

1. It is an established rule of the hospital that members of the staff who bring in out-of-town specialists are to inform or to get the permission of the superintendent. This rule is promulgated so that, among other things, the operating room may know of this coming event if it is a surgical case.

2. When out-of-town surgeons operate it will be the responsibility of the operating room secretary to type three copies of the operative record, as dictated by the out-of-town surgeon, and mail the original and one copy to that surgeon for his signature on the original. The original, properly signed by the surgeon, will go to the record room when returned and will be attached to the patient's permanent record. The third copy of this operative record will be with the record until the signed copy is received; then it may be destroyed. The operating room secretary will, therefore, need to obtain the full name and address of the out-of-town surgeon and she will clip a note to the two copies, when mailed, requesting the return of the original, properly signed, and indicating that the duplicate is for his files.

Records

1. A written report is to be sent by the head nurse of the ward to the operating room as well as to the nursing school office, properly signed by the surgeon on service, in all cases in which sepsis has developed in clean cases.

2. The anesthetist who attends the case is responsible for the anesthesia record and for the details on the operative record relative to the name of surgeon, assistant and sponge count. In all cases in which the anesthesia department is not utilized, it is the responsibility of the operating surgeon to see that these records are properly and promptly dictated.

General

1. Visitors in the operating room are to be kept at a minimum and are never to be allowed except on the specific request of the operating surgeon. Friends of patients should be discouraged from accompanying the patient to the operating building.

2. Smoking is to be allowed in the doctors' dressing room only.

How Out-Patients Are Handled

For a study of racial, personality and disease types, what better spot than the out-patient department of a modern hospital! The types above are Salem's own.

ALTHOUGH the out-patient department at Salem Hospital operates in one of the less attractive parts of the hospital plant and without some of the conveniences and modern surroundings that are found in recent out-patient buildings, it makes an important contribution to the health of the poor people of the greater Salem area and to the education of both young physicians and student nurses.

All told there are 37 clinic sessions per week with two others that are on a monthly or bimonthly basis. The clinics, with the number of sessions weekly, are as follows: dental, 6; employe, 6; medical, 4; surgical, 4; orthopedic, 2; physical therapy, 3; ear, nose and throat, 2; food, 2; gynecologic, 1; obstetric, 1; pediatric, 1; well baby, 1; urologic, 1; tumor, 1; nervous and mental, 1, and diabetic, 1. The dermatology clinic meets twice a month and a state clinic for crippled children meets monthly.

In addition to the regularly scheduled clinic sessions, the out-patient department handles all accident and emergency cases, applications of plaster casts and minor surgery for private out-patients and house patients. It also serves as the avenue of admission of ward patients to the hospital for observation, further treatment or surgery.

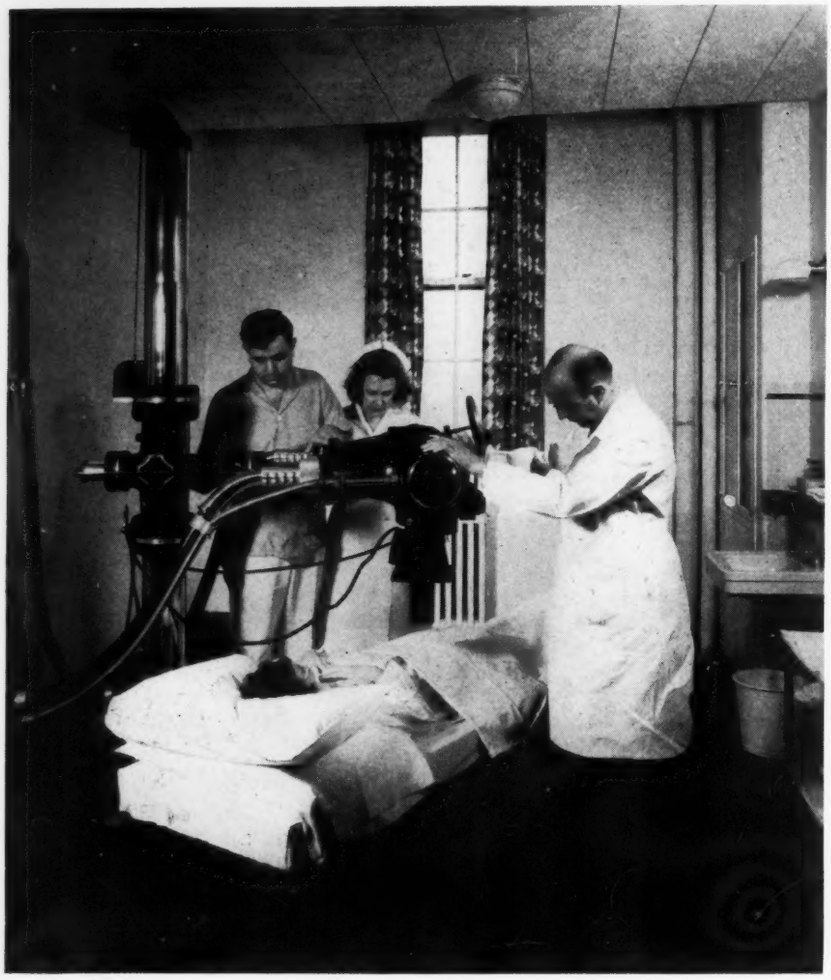
From a review of the clinics listed, it is apparent that the out-patient department renders a well-rounded clinical service to its clients. That this service is needed is indicated by the fact that it has grown steadily from an average daily attendance in 1936 of 31 patients to an average in 1941 of 48 patients.

All new patients are registered and then are referred to the social service worker, who passes on their financial eligibility. This she does on the bases of the city's welfare budget and the probable cost of treatment for the patient. The clinic admission fee is 25c for adults and 10c for children; charges for x-ray, diagnosis and therapy, laboratory work and other special services are approximately one fourth of the rate for private patients. Patients are expected to pay these fees if they are able. Many, of course, are on relief and are unable to pay even the modest clinic fees.

An appointment system is used in the department to balance the load on various days and to save the time of patients.

Patients who do not live in Salem are accepted if there are no appropriate clinic facilities in their own communities or if they are referred by a physician and can pay clinic fees. Patients routinely go first to the general medical or surgical clinic, which has admitting hours from 8:30 to 9:30 a.m., every week day except Wednesday and Friday. Accidents and emergencies are accepted any time of the day or night.

The out-patient department supervisor is a registered nurse. The staff also includes three student nurses, the admitting clerk or registrar, the social worker, another social worker, part of whose time is devoted to the tumor clinic and who is paid by the state, one medical staff physician, one surgical staff physician, other specialists as required for the various clinics, one intern for general work (as well as interns from the obstetric, pediatric, ear, nose and throat and urological services), the physical therapist and the occupational therapist. Most of these people serve only part-time in the out-patient department.



A strong, newly equipped x-ray department is available to out-patients.

The department is housed in a portion of the main structure, built on a floor below the main entrance of the hospital; owing to the contour of the ground the department is entirely above grade level. There are eight examining rooms, one diet clinic room, four dressing rooms, one recovery room, one utility room, one plaster room, one dental room, a large waiting room, an admitting office, a linen closet and patients' toilets.

The rooms are furnished with the necessary equipment for carrying on the work properly, the plaster room, for example, having a plaster cart, table and carriage and a variety of splints to meet the needs of all age groups. There are ultraviolet and infra-red lamps and two respirators for both out-patients and in-patients. The utility room is equipped with a large basin sterilizer, a sterile water tank and a blanket warmer.

Ambulance service is not provided by the hospital but is available from the police departments of the various communities and from commercial companies. The Hospital Aid Association operates a motor corps to bring patients to the clinics when necessary. Bus service goes past the front door.

The teaching of patients, of interns and of student nurses is carried on in the department. Patients are taught by the doctors and nurses, particular emphasis being put upon this service in the prenatal, well baby and diabetic clinics. Educational pamphlets are distributed and posters adorn the walls.

Student nurses are taught by staff physicians, the intern and the out-patient supervisor to handle emergencies, to assist in the application and removal of plaster casts, to give alpine lamp treatments, to care for equipment of each clinic and to set up and to assist at minor surgical operations.

A definite effort is made to develop in the student nurse an understanding of the cause, treatment and prognosis of certain diagnosed cases. She is required to write at least one case history during her four weeks in the out-patient department. Particular emphasis is put upon the socio-economic background of the patient and his family, on the family's relations to the community and on the bearing of these facts upon the patient's disease. Through the work of the social worker, the nurse is given an insight into the community resources available to aid the patient.

A regular follow-up service is maintained for the out-patient department by the social worker who serves part time in the tumor clinic. In this follow-up work she is aided by volunteers, who also assist in other work in the department. When patients are discharged from the in-patient service they are referred to the appropriate clinic in the out-patient service for follow-up work. This not only helps ensure that the patient benefits fully by his hospital stay but it aids greatly in providing proper teaching for interns and student nurses.

The modest fees charged in the department bring in only $4000 in income, which is not enough to meet the direct and indirect salary expenses of $4200 charged against the department. (This expense is actually only part of the total expense of the department as the salaries of many of the part-time workers in this division are not charged to it at all.) The total hospital income from out-patients, however, (most of it from private ambulatory patients) is more than $29,000 a year. A large part of this, of course, is credited to the x-ray, clinical laboratory and other special departments.

While the department is operated at a loss to the hospital, this loss is of minor significance in view of the large contributions made to community health and to the advancement of professional education. The smallness of the deficit, of course, is due in considerable measure to the gratuitous services of the physicians and volunteers who work in the department.

HOW SIMPLE is the infusion technique in your hospital?

No need to remind you of the sterility hazards in any involved procedure for intravenous injection. The simpler your apparatus, the safer in use.

That is why hospital staff and doctor alike will appreciate Saftiflasks — Cutter solutions that are safe-tested by a biological laboratory and safer in use because of the flask's complete simplicity.

Just plug in your injection tubing. No loose parts to wash, sterilize, assemble.

Tested, Safe-Proven Solutions

Subjected to such rigid checks as only a biological laboratory is equipped to carry on, each lot of Cutter Solutions is *proven safe before administration.* Rabbits, not your patients, chance reactions!

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One of America's oldest biological laboratories

Trustee Forum

CONDUCTED BY
RAYMOND P. SLOAN

Learning by Doing

FROM the year 1873 when Salem Hospital was founded until 1938 the personnel and character of its governing board remained substantially the same. Regulations carefully established at its inception were followed faithfully during the entire period, as, for example, the adoption of a policy that "the ladies are running everything else in Salem, so we men will keep the hospital entirely in our control." And so they did.

One of them, Charles S. Rea, who was appointed treasurer when the hospital was founded continued as an active trustee until January 1938 when he passed away at the age of 94. His interest in the institution never flagged and he stands as a dominating figure in its history.

The year 1938 marked a turning point in the hospital's affairs. Within a week after Mr. Rea's death another loss was suffered by the passing of George W. Grant, who had been president for fifteen years. This occurred at a time when an amendment to the by-laws stating "that any trustee who had served fifteen consecutive years may be elected for life" was in process of being adopted. Changing conditions warranted younger men on the board, it was agreed, and the amendment made possible the addition of seven new trustees, as well as appointments for the two vacancies.

The character of the board members may be indicated by describing those added to the board at this time. They are: (1) Walter E. Poor, vice president of Hygrade Sylvania Corporation; (2) J. Newton Smith, president, Boston Woven Hose Co., and director of several large corporations; (3) George E. Stephenson, retired, formerly an executive of the *Boston Transcript* and graduate of Harvard Law School; (4) Robert B. M. Barton, president of Parker Brothers, game manufacturers and graduate of Harvard Law School; (5) Warren H. Butler, treasurer of large retail

Form 1—Statistics for Month of November 1941

Services	November 1940	November 1941	1940 to Date	1941 to Date
Average census	168	202	168	186
Average census (minus babies)	149	173	146	159
Total patient days	5,414	5,589	61,222	65,373
Private patient days	1,744	1,899	19,560	22,040
Intermediate patient days	1,412	1,605	13,998	18,725
Ward patient days	2,258	2,085	27,664	24,608
Children's patient days, private	181	397	1,288	2,590
Children's patient days, ward	270	246	3,630	3,271
Private out-patients treated	180	201	2,136	2,781
Out-patient visits	1,140	1,286	13,709	14,077
Babies born	48	74	629	701
Deaths	10	25	212	208
Necropsies	3	8	80	82
Percentage of necropsies	30	33	33	40
X-Ray:				
Examinations	560	550	6,520	6,556
Treatments	254	222	2,089	2,035
Mary Alley	36	23	388	306
Total	850	795	8,997	8,897
Laboratory:				
Basal metabolism	23	29	288	363
Electrocardiograms	29	26	338	353
Other tests	3,733	4,335	50,862	48,804
Total	3,785	4,390	51,488	49,520
Occupational therapy visits	251	297	1,580	2,539
Social service visits	25	20	402	284
Consultations	140	102	1,876	1,828
Number of meals served:				
Patients	14,467	16,847	159,888	173,492
Employes	17,211	17,564	176,685	197,823
Total	31,678	34,411	336,573	371,315
Number of special diets served (included in above figure)	2,244	2,355	17,627	25,011
Raw food cost per meal	17.9¢	20.2¢	17.1¢	19.2¢
Total cost per patient day	$5.56	$5.76	$5.08	$5.86
Total cost per patient day (excluding infant days)	$6.25	$6.73	$5.86	$6.83

Dec. 16, 1941.

Form 2—Brief of Important Items

Gentlemen:

From the standpoint of number of patients, November was the second busiest month of the year. From many other standpoints, it has been the busiest month, particularly the last ten days.

The nursing school advisory committee, functioning as an agent of the board of trustees, had its first meeting, which was very successful. We feel that this group of interested people will aid in this educational function.

All hospitals in New England are short of nurses at the moment, but we are considerably better off than most. The trustees will recall that this was one of many specific arguments for increasing basic salaries last spring.

Our major activity since the last meeting has had to do with preparations for emergency. As the members of the board know, this is something that we have been working on consistently for some period of time. Yet even with our detailed plans, we, as well as other organizations, decided on Tuesday, December 9, that we were not ready for enemy bombers. We have done much to crystallize our plans.

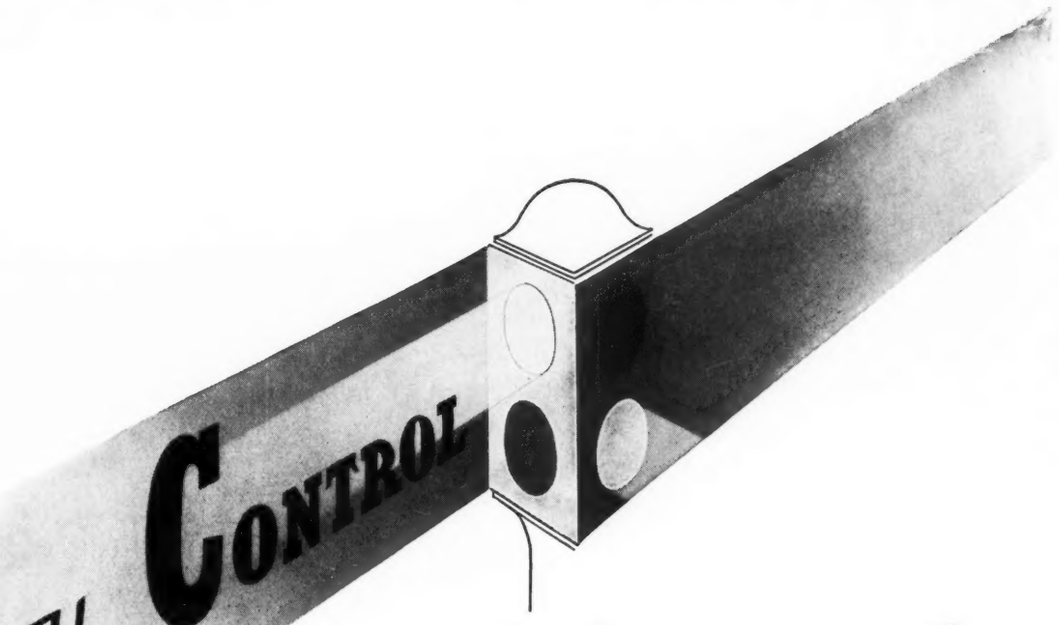
Specifically, the Aid Association has developed companies of volunteers, each with 40 women trained in some one aspect of hospital work. These groups have had trial runs and have had specific assignments on arrival at the hospital, so that we are now equipped and ready for volunteers to function at the hospital in thirty minutes from the first call and to carry through with every twenty-four hours. This organization is being copied by many hospitals in Boston and beyond.

The need for trained help was also the reason for our request for trained volunteers through the Aid Association nearly two years ago and the cause for stepping up the size of our nursing school all possible. I think the trustees can feel that we have anticipated the requirements for emergency quite carefully, and yet we know that it will take the help and support of a unified community if we are to be properly prepared for sabotage or enemy bombers.

It has been necessary for me to take many steps to short-cut procedures and to step up the tempo. Many people, including members of the staff, do not enjoy working with this degree of pressure. We will, therefore, need the encouragement, support, advice and perhaps patience of the entire board.

Respectfully submitted,
Oliver G. Pratt, Superintendent.

Dec. 16, 1941



The Control of Enervating Cough

REQUIRES MORE THAN SEDATION

To allay the racking cough of acute trachitis and bronchitis with sedatives alone might require doses of such size that the necessary drainage might be interfered with. The administration of the proper combination of expectorants with sedatives will usually forestall the long-continued paroxysms which so exhaust the patient that recovery is delayed.

CHERACOL*

Color—Bright cherry red Flavor—Sweet, cherry

EACH FLUIDOUNCE CONTAINS:

Codeine Phosphate	1 gr.
Chloroform	2 grs.
Potassium Guaiacolsulfonate	8 grs.
Ammonium Chloride	8 grs.
Antimony and Potassium Tartrate	1/12 gr.
with White Pine and Wild Cherry Barks	

IN 2 OZ., 4 OZ., AND PINT BOTTLES

CIDICOL*

Color—Orange Flavor—Tart, citrous

EACH FLUIDOUNCE CONTAINS:

Ethylmorphine Hydrochloride	1/4 gr.
Potassium Guaiacolsulfonate	8 grs.
Potassium Citrate	20 grs.
Citric Acid	6 grs.

IN PINT BOTTLES

COUGH 2 PRESCRIPTIONS *of Merit*

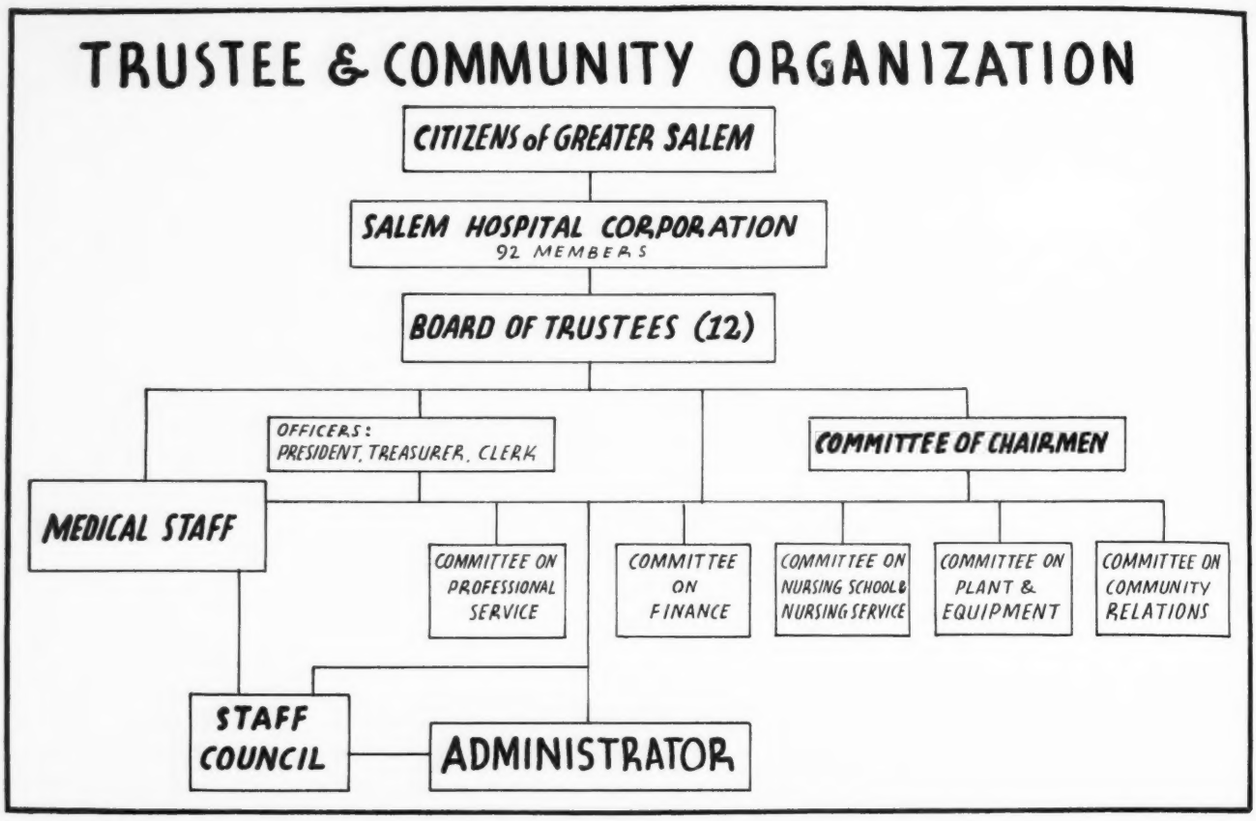
EXEMPT NARCOTICS RECORD REQUIRED

SEDATIVE • ATTRACTIVELY COLORED AND FLAVORED • EXPECTORANT

Upjohn
KALAMAZOO, MICHIGAN

FINE PHARMACEUTICALS SINCE 1886

*Trademark Reg. U. S. Pat. Off.



store and consultant on organization and financial control for a group of department stores throughout the country; (6) Harold T. N. Smith, president of a local manufacturing concern with nationwide contacts and active in all community enterprises; (7) James E. Farley, assistant attorney general of Massachusetts; (8) John L. Tudbury, general manager of Salem Gas and Electric Co., one of the large industries; (9) John Pickering, Boston business man, descendant of Col. Thomas Pickering of Gen. Washington's staff, and (10) Henry J. Callahan, past president of Salem Chamber of Commerce and owner of sporting goods stores in Salem and in Manchester, N. H.

The introduction of these new members involved many problems. While carefully chosen for their suitability to the post, they were unfamiliar with hospital problems.

The easiest way to learn is to do. On this basic truth a new pattern was developed to serve the existing needs of the hospital for, according to the administrator, "the ideal board varies with the stage of development of the hospital. It varies as the needs of the hospital change, as well as with the type and capacity of the administrator."

Today five working committees based on various hospital functions form the nucleus of the governing body, which numbers 17 men. In lieu of an executive committee, there is a correlating committee made up of the chairmen of each of the five committees. Use of the term "executive committee" is purposely avoided in an effort to have each trustee feel a definite responsibility, rather than to assume or to accept the principle that the few on the executive committee are to carry the real burdens of the hospital. These committees are: finance, community relations, training school and nursing staff, professional services, plant and equipment and the committee of chairmen.

With the committee membership carefully chosen with respect to interests and adaptability, the next step was a program. Specific problems were either sent directly to the functional committee or referred by the board to the functional committee after which the functional committee reported back to the board. This procedure was followed to help educate the trustees and to afford a chance to evaluate each new member and to discover the extent of his interest.

Meetings of the committee of chairmen are now held monthly and problems are taken up directly with it because experience has demonstrated that this committee contains most of the men who are taking the greatest working interest in the hospital. If there are problems that require detailed study, the chairman of the committee involved takes it up with his committee and reports back. It is possible, therefore, to sit down with a half dozen men and make real progress with any type of hospital problem.

Clear and concise statements of the hospital operation are mailed to each trustee each month before the meeting (form illustrated). Special items of importance and interest of national and local nature are sent in briefed form, and a complete report is issued annually that contains a true and frank picture of the hospital in all of its ramifications.

Some idea of the subjects covered in the annual report is revealed in its table of contents: executive staff; summary of current year's statistics; report of the superintendent; report of the medical and surgical staff; report of the x-ray department; report of the laboratory; report of the school of nursing; report of the occu-

"Why settle for 75¢ when you can have $1.00?"

It gives you something to think about when you compare the advantages of Nairn Linoleum with other floor materials. For Nairn Linoleum alone meets *all four* of the basic specifications for the modern floor.

1. EYE APPEAL—Unequalled beauty and wide variety of color offer unlimited freedom of design. Patterns that are Color Correlated—with each other and other decorating materials.

2. LONGER WEAR—Nairn commercial linoleums not only meet, they *exceed* U. S. Government specifications on *every* point. Built-in ruggedness that spells long-range economy.

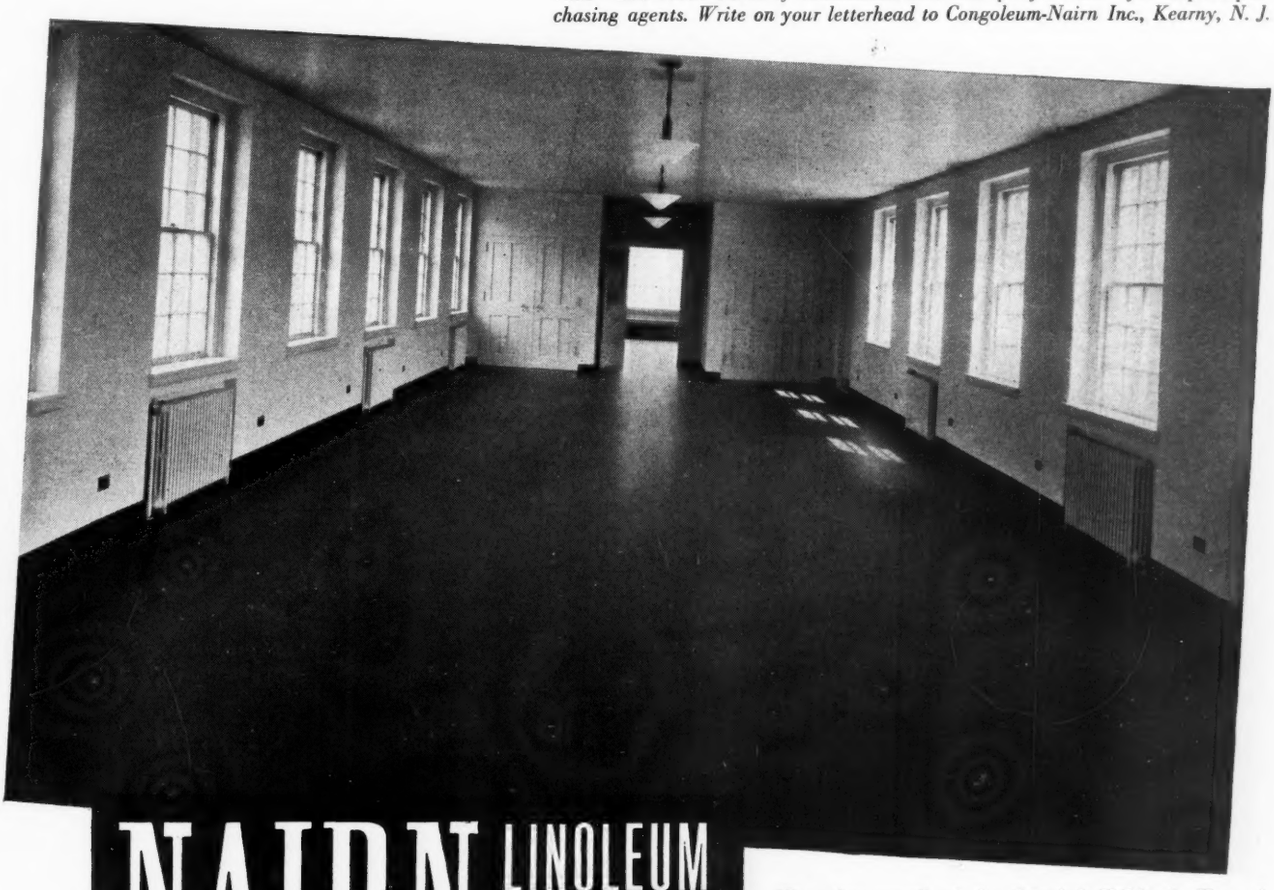
3. RESILIENCE—Quiet, "foot-easy" Nairn Floors are sound absorbing, sound deadening . . . reduce impact from falls . . . "comeback" with a minimum of marring after indentation.

4. CLEANLINESS AND EASY MAINTENANCE—One-piece construction leaves no dirt-catching cracks and joints . . . reduces maintenance time and cost to a minimum. Positive germicidal properties. No splinters! No "dusting"!

Why be satisfied with a floor that gives you only two or three of these advantages—a 50% or 75% value for your money? In times like these especially—it's important to get "all 4"—100% for every dollar you spend—with Nairn Linoleum!

EXTRA VALUE IN NAIRN WALL LINOLEUM, TOO. It lasts as long as the building. It won't fade, crack, discolor, stain or dent. And—with its amazing variety of patterns and colors—it offers more decorating possibilities than any other permanent wall material. Both Nairn Floor and Wall Linoleum are fully guaranteed when installed in accordance with specifications.

FREE—200 PAGE BOOK *of installation aids and specifications—for hospital purchasing agents. Write on your letterhead to Congoleum-Nairn Inc., Kearny, N. J.*



NAIRN LINOLEUM
FLOORS AND WALLS
Reg. U. S. Pat. Off.

The "day room" of the Crippled Children's Home in West Orange, N. J. has resilient, quietizing floors of Nairn Linoleum. Note one-piece cove base and border where floor meets wall—an added sanitary feature.

Nairn Linoleum—the floor that gives you "all 4"

pational therapy department; report of the social service department; report of the dietary department; report of the housekeeping department; report of the office; improvements and maintenance of property; cost per patient day of hospital service broken down by departments; attendance of doctors at staff meetings, conferences and necropsies; analysis of sources of patients; analysis of obstetrical patients by doctors; hospital deaths analyzed by hospital divisions and by doctors.

Material of special interest and exhibits pertaining to hospital operation are placed in the trustees' room at the time of the monthly meeting for their information. Recently it has been on emergency defense measures, with British publications predominating.

To avoid having the committee work drift definitely into detail, a proposed program for Salem Hospital was developed on the basis of the present day attitude of government and the more liberal policy of the American Medical Association and the American Hospital Association. It looked forward as far as possible, using previous records and this modern trend as a basis. As a result, the trustees formally referred this report to the five committees for study of those parts in their particular realms. The best thought and the most intelligent consideration are now being given to those broad problems of the hospital which today seem to be the most urgent and far reaching.

Many of the trustees who are executives in active business question the advisability of the committee system as outlined, but the answer has always been that this is a temporary type of organization for the purpose of educating the trustees. Every trustee has been happy to accept his responsibility on this basis, agreeing that such a type of organization is good for that purpose but perhaps not proper for a permanent arrangement, partly because so much of the administrator's time is consumed in committee activities.

Because this seems the ideal board of today, it may not be the ideal board for next year. It may seem expedient to have no standing committee as such but to appoint committees for definite projects as needs may arise.

The plan is an example of procedures in selection, organization and the use of a board at a time when a typical community hospital needed to pull itself up by its bootstraps, to broaden its perspective, to plan building expansion and to broaden its point of view relative to its medical staff.

After three years of actual experience with the committee system, Salem Hospital has now arrived at the point at which the committee of chairmen functions effectively, meeting once a month midway between trustees' meetings, reviewing all problems and, when indicated, referring to a specific functional committee or to a special committee some problem that warrants further study. This has been accomplished with guidance and assistance from the administrator and with courage on the part of the president and every board member.

The fact that the functional committees are meeting less frequently and that the committee of chairmen is assuming more of the burden indicates that the basic educational work has, on the whole, been accomplished.

"Unfinished Business"

WHILE Salem Hospital may be considered as well rounded in its facilities and services as almost any general hospital serving an average community, certain additional needs will be noted by the visitor. Many of these pertain to physical facilities, because the institution has rightly followed the precept that brick and mortar do not make a hospital.

To complete the record the following list of needs is included:

1. The main building was constructed in 1917 and, by comparison with the maternity and children's building completed in 1941, does not appear as up to the minute. Naturally, it is not as outdated as many hospital buildings still in use in the United States. Since its exterior lines are attractive and the construction is good, this is a problem of modernizing the interior rather than of replacing the building with new construction. Some of this modernization is going forward now. More is being planned.

2. New laundry, dining room and kitchen equipment are needed to make these departments as modern as other parts of the hospital. The laundry needs expansion.

3. Remodeling of the "domestic building," a separate structure, should make it modern and fireproof. It is now sprinklered and protected by automatic fire alarm.

4. A new and modern out-patient department would add greatly to the hospital's facilities.

5. Modern clinical and pathologic laboratories comparable to the x-ray laboratories are needed.

6. Although Salem Hospital employs a full-time registered pharmacist, more progress in this department is contemplated. The physical area for the department is not large enough and the location would be better if contiguous to the out-patient department.

7. Development of the physical therapy department is required.

8. Development of an organized, well-rounded psychiatric service for patients who could profit by treatment near their homes and would benefit by avoiding commitment to a state institution is hoped for. Already the hospital has an affiliation with Danvers State Hospital, but there is no section of the building to care for mental patients.

It should be noted that architectural plans for improved dining and serving room facilities, the out-patient department, and laboratory and physical therapy departments have already been drawn and are being given further study. When money becomes available, the plans will be ready for prompt execution.

This is an excellent policy as the existence of such plans often serves to attract the needed funds.

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We take pleasure in announcing
that we have been awarded contracts
by the Army and Navy for

Baxter's pyrogen-free intravenous solutions

Civilian hospitals will be interested to know that the same Baxter solutions which they are using meet the rigid Army and Navy specifications ☆ Greatly expanded laboratory facilities, planned many months ago in anticipation of defense demands for Baxter's solutions, assure civilian hospitals their usual prompt delivery service

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CHICAGO NEW YORK

SALEM HOSPITAL

Plant Operation and Maintenance

CONDUCTED BY W. W. DAVISON AND R. STARR PARKER

Painting and Repairs

In the Salem Hospital Setup

BOTH head painter and housekeeper at Salem Hospital keep a record of all rooms, wards, corridors, stairways and furniture that have been painted or are in need of painting or retouching. On January 1 a suggested list with approximate cost is prepared for consideration by the superintendent.

Periodically, the head painter and housekeeper make a survey of the hospital, taking notes on rooms that are in need of immediate attention. A repair requisition is then made out to the maintenance department, stating the building, floor, room and nature of repair. This requisition is sent to the superintendent's office for his approval to be affixed. If the work is approved, a houseman gets the room ready for the painter. He washes the ceiling, walls and woodwork. The engineer disconnects the radiator. Any necessary electric wiring and linoleum patching are done at this time. When the painters have made the required repairs, the houseman comes in once more to wash the windows and strip and rewax the floor.

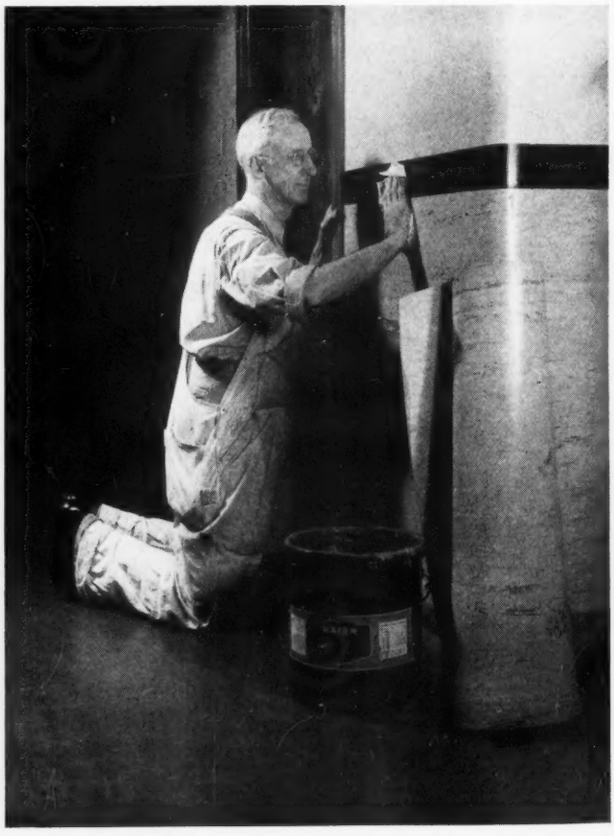
Small repairs, such as patching walls and setting windows, are given immediate attention.

Walls are washed every six months and are repainted every three years.

The schedule is so divided that 15 rooms are done each year. When it is impossible to work in patients' rooms, the painters do the utility rooms and corridors, or work in the employes' building or the nurses' home and its annex. Beds are repainted and kept up every year, the springs and bedsteads being thoroughly retouched. The painter's schedules also include small objects, such as baskets, porch chairs, lamps, stools, cribs, towel cans and even croquet sets.

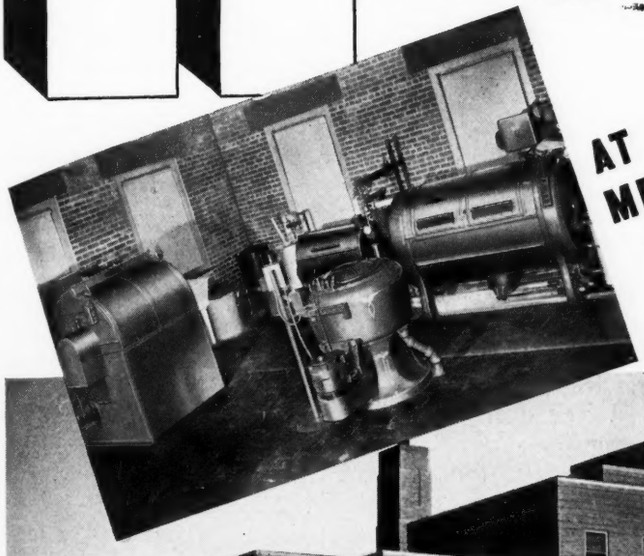
The painter and his assistant are directly responsible to the head maintenance man. Their paint shop is in the basement adjoining the carpenter's shop.

This sturdy floor machine lightens the porter's task.



A colorful rubber wainscot freshens the old building.

HOFFMAN SHOWS NO MERCY TO LAUNDRY TROUBLES...



AT THE MERCY HOSPITAL, HEMPSTEAD, N. Y.

Inefficiency and waste beat a hasty retreat when Hoffman installs modern equipment in the hospital laundry. Why not join the nationwide swing to Hoffman, and enjoy the efficiency and operating economy that are winning enthusiastic praise from hospital superintendents everywhere?

U. S. HOFFMAN MACHINERY CORPORATION
107 Fourth Ave. • New York, N. Y.

COMPLETE LAUNDRY EQUIPMENT SERVICE FOR THE INSTITUTION

Designed for Good Housekeeping

TEN years ago the dietary and housekeeping departments of Salem Hospital were administered by the dietitian. In 1934 a trained person was brought in to head the housekeeping department activities under the general supervision of the dietitian. Later, the housekeeper was placed in complete charge and finally accorded full responsibility for the laundry.

A natural aptitude for the work, a good education, sound specialized training, the right personality and a willingness to cooperate with all other departments are essential qualifications for the director of a housekeeping department. She must have an adequate knowledge of all the hospital equipment and an intelligent understanding of operating room and out-patient department needs. She must be familiar with bacteriology and sterilization in order to instruct the employes properly in the handling of precaution linens and dishes and in the cleaning of precaution rooms.

Another essential of efficient housekeeping is the proper hiring and training of employes. At Salem Hospital, there are a head seamstress and two assistants in the sewing room, one woman in charge of linen, 19 maids servicing the wards and laboratories, eight housemen and two porters. The help is usually picked from Salem or surrounding towns. Those more than 20 years old and untrained are preferred as the hospital likes to train them in its own methods. There was little turnover until April 1941.

A new applicant is required to fill out an application blank giving references, which are thoroughly checked. The first impression counts a great deal, that is, the applicant who is neat, quiet, courteous and attractive is likely to be considered favorably. One point is strongly emphasized: if an applicant criticizes her former place of employment, she is never hired.

The applicant should be acquainted with all the facts of the position: the salary, the hours of reporting for work, the leisure time and the rules of the institution. Salem Hospital has a book of printed rules, which is given to new employes.

If the applicant is hired, she is first given a complete physical examination. She is then placed with one of the older girls for two or three days to learn the routine of the hospital. She spends at least one day with each of the maids, because Salem Hospital has a permanent substitute system, *i.e.* there are three permanent substitutes who fill in on the regular maids' day off. When a vacancy occurs, the older substitute is given the position and the new applicant becomes a substitute. Thus, every one of the maids can handle any branch of the housekeeping service—the linen room girl can work on the ward in an emergency or an assistant seamstress can take over the linen room. Each maid has her own room in the domestic building and is free to suit her own tastes in decorations. The rooms are inspected once a month by the housekeeper.

Housemen and porters are trained in the use and care of the equipment in the same manner as the maids. They live out. If they wish, they may come in for breakfasts at 6:30 a.m. A permanent substitute takes the place of the regular housemen and porters on their days off.

After training, employes are followed up by daily supervision.

The ward maids report for duty at 7 a.m. They work from 7 a.m. to 7 p.m., with three hours off duty in the afternoon and an hour off for meals. They have one full day off each week. The Sunday schedule is arranged in such a way that everyone has time to attend church.

The duties of the maids vary according to the ward or floor that each is assigned to. Routine schedules and instructions are posted in every diet kitchen.

Each maid has her own supply closet in which is kept: 1 long handled dust mop, 1 short handled dust mop, 1 wet mop, 2 extra dust mop heads and 2 extra wet mop heads (the mop heads are sent to the laundry every Wednesday and Saturday), 1 pail, 1 dustpan, 1 dust brush and cleaning cloths. On floors on which there are rugs, a carpet sweeper is included in each closet. On Tuesday and Friday of each week the maid takes her supply basket from the diet kitchen to the stockroom for filling.

REPAIR REQUISITION Date May 26 1941

To Housekeeping Department Emergency—Yes ☒ No ☐

Building Main Floor Private III Room 328

Nature of Repairs Wash + wax floor

Date Approved

_____ Superintendent

_____ Supt. of Nurses

_____ Dietition

M G Edwards Household Supervisor

Reported by J Brenough

Repairs Completed by Jack

Date Completed 5/26/41

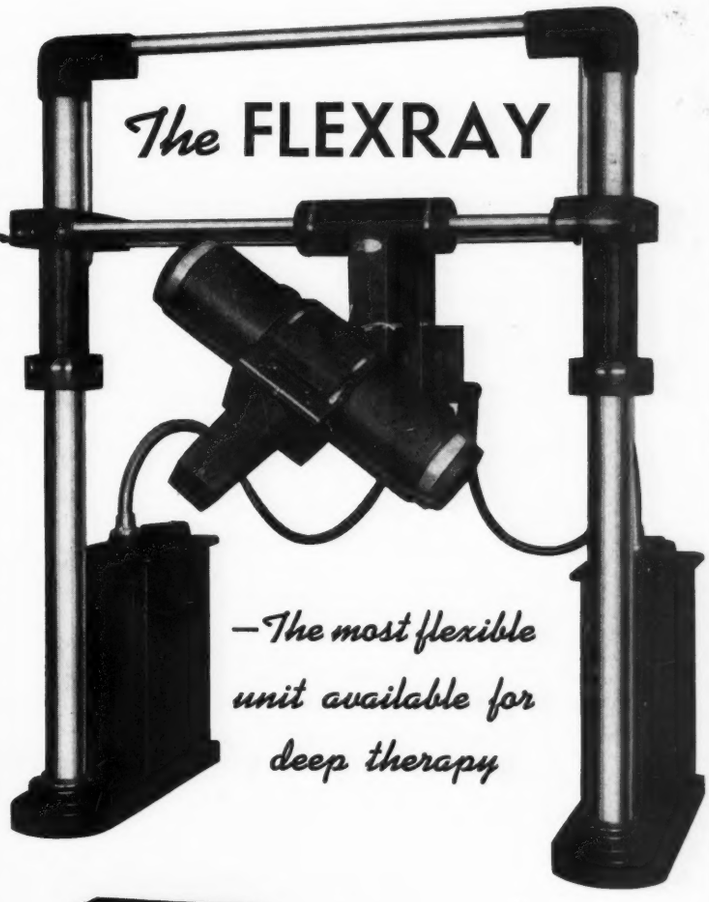
Requisition Slip

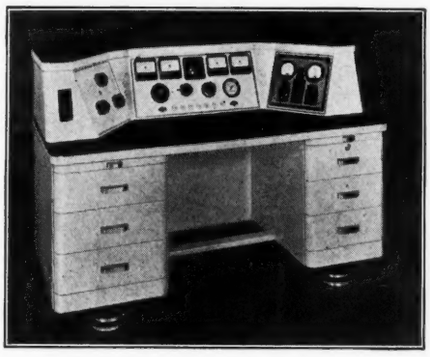
For Greater Flexibility in DEEP THERAPY

The FLEXRAY *Therapy Tube Stand*

The Flexray Unit is so named because of the extreme flexibility and ease it offers in adjusting the x-ray portal to *any* desired position or angulation. The Flexray Unit may be operated continuously at a maximum of 220 peak kilo-volts, and occupies only a small amount of space for installation. The entire field of x-ray treatment can be covered by the Flexray Unit, as it is adjustable from 100 P.KV. for superficial therapy to 220 P.KV. for deep therapy. Due to extremely low inherent filtration (approximately 2.5 mm. aluminum) the x-ray output is extremely high even at the lower voltages.

The tube head is equipped with motor driven shutters and arranged so any size adapter cone can be easily attached or detached to the master cone. We also manufacture therapy units of 100 P.KV. and 150 P.KV. capacity.





CONSOLE CONTROL

The Flexray Console Control, as illustrated, is the most modern therapy control available. Although it occupies slightly more space for installation than the Vertical Panel Control, it is distinctive in that the operator may be seated at the Control and observe the patient through a window into the Treatment Room. All meters and controls are located so that they are extremely accessible to the operator seated at the Console. The Console Control is of all metal construction, and may be obtained in any color finish desired. Many leading hospitals throughout the country are using the Console Control and have found it most practical.

VERTICAL PANEL CONTROL

The Flexray Unit is regularly supplied with the Vertical Panel Control. All controls are located at a convenient height, and all meters are in a position where they are easily observed. Any of the various types of x-ray output measuring instruments may be mounted in the panel at the time the unit is constructed.

Complete details, specifications, prices will be promptly supplied on request. Write for illustrated catalog today.

STANDARD X-RAY COMPANY

Pioneers in X-Ray Equipment for over 30 years

General Offices & Factory
1932-42 N. Burling St., Chicago

Branch Offices, Distributors
Throughout the World

HOUSEMAN'S DUTIES. SECOND AND THIRD FLOORS

Above: Janitor shaking dust mop in his closet. The dust collects in a drawer. Below: Washing walls by machine power.

Hours: 7 a.m.-12:30 p.m.; 1:30-5 p.m.

1. Sweep stairs from the fourth floor down, the east side first.
2. Wash stairs every morning after sweeping. Keep free from dust all day, sweeping again before dinner and in the afternoon or as often as necessary to keep looking well.
3. Dust all woodwork in stairways. High dust all stairway fixtures every Monday morning.
4. Dust thoroughly all stairway radiators and pipes every Thursday morning. Dust office girls' hat space. Clean glass in all doors and in stairways.
5. Sweep all corridors on second and third floors and dry mop.
6. High dust clock, medicine cabinet and all light fixtures on second and third floors every Wednesday morning.
7. Sweep porches on second and third floors daily when the weather permits.
8. Shine brass knobs and bands on doors.
9. Wax floors, according to requisition.
10. Clean elevators, sweep and dust, wash and polish.
11. Wash operating room floor when orderly is off on Wednesday.
12. Take W.S.W. food cart up and back morning and night.
13. Close all stairway windows at night if it is not too hot.
14. Bring down rugs for vacuum cleaning every Friday morning.
15. Do special cleaning as requisitioned.
16. On Sunday help wherever necessary if an emergency arises.
17. Air porches in children's ward; sweep and wash as needed.
18. Wash maternity delivery room once a week.

Upon discharge of a patient, the head nurse notifies the housekeeping department by requisition. The housekeeper then assigns the houseman on that floor to do the necessary cleaning. After the ward helper has cleaned with an antiseptic solution the patient's unit, the houseman removes the furniture to the corridor; if necessary, he removes the draperies or glass curtains and sends them to the laundry. The room then being empty, the houseman proceeds to do the high dusting, to wash the windows and light globes, to polish and wax the floor and to wash the walls when necessary. When the cleaning is completed, the houseman signs the original requisition blank on the line provided and turns it in to the housekeeper. Thus she has a permanent record telling when and by whom the cleaning was done and the type.

The floors in the operating room are cleaned by the housemen only when the orderly is off duty. In the out-patient department the nurses do the daily cleaning with the exception of the floor, handled by a houseman. Each houseman has his own cleaning closet in which he keeps smaller pieces of equipment, polishes and soaps. Each man is equipped with: one 24 inch floor brush, 1 large especially made 20 inch long strand floor duster for the corridors, 1 vacuum cleaner and attachments, 2 wet mops, 2 pails and 1 mop wringer, 1 long handled dustpan and brush, 1 screen brush, 1 venetian blind brush, 1 long handled high dust mop, sponges, rubber gloves for precaution work, and cleaning supplies, such as soap, powder, brass polish and floor wax. The larger pieces of equipment, such as the scrubbing machine, the floor polisher and waxer and the wall washing machine, are kept in the basement cleaning closet.

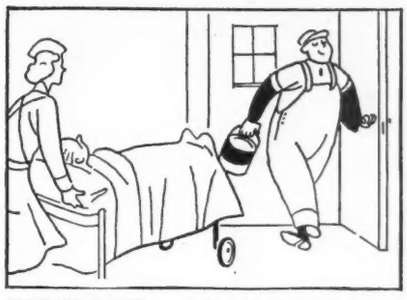
The porters are responsible for the delivery of the food carts to the wards three times a day. They deliver clean linen and collect soiled.

PAINTERS ARE *NOT* PAYING PATIENTS

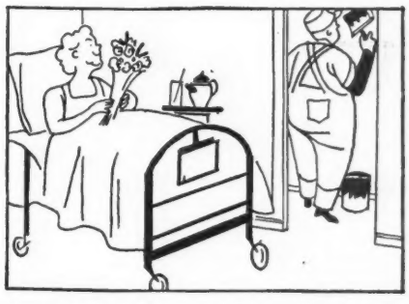
But

TEXOLITE "330" *goes on fast, and usually covers in one coat.*

No, painters are not paying guests. Every minute they are working, and every hour their paint is drying is simply that much time lost, while your revenue-producing rooms and wards stand idle. • But now here's a new painting *method* that gets those valuable rooms back to work at top speed. • TEXOLITE "330" is a new flat paint that mixes faster, goes on faster, covers more wall and ceiling area to the gallon. • Where applied over old paint, in most cases it needs no priming or sizing coat. It is washable. It can cut your paint-maintenance costs, as it has others, by as much as 25% to 40%. • A USG paint field-representative will make a free survey and recommendations. Write or telephone the nearest USG office, or your local dealer.



TEXOLITE "330" *normally dries in an hour.*



TEXOLITE "330" *leaves no disagreeable paint odor.*

TEXOLITE "330"

Keeps Hospital Rooms at Maximum Occupancy

UNITED STATES GYPSUM

USG

This famous trademark identifies products of United States Gypsum Company—where for 40 years research has developed better, safer building materials.

PAINT • PLASTER • LATH • WALLBOARD • INSULATION • ROOFING

SUMMARY OF HOUSEKEEPER'S DUTIES

RECORD BOOKS
- Linen
  - Quota and discard
  - Inventory sheets
  - Monthly records
- Cleaning and decoration
  - Daily record of cleaning by requisition
  - Interior decorating
  - Special cleaning

MORNING ROUNDS
- Room inspection
  - Cleaning done previous day by requisition
- Conferences with employes
  - Orders for day or emergency orders

ANALYSIS OF WARD MAIDS' DUTIES IN RELATION TO NURSES' DUTIES
- Ward cleaning
- Private room cleaning
- Diet kitchen work

STOCKROOM
- Linen requisitions
- Housekeeping supplies, soap and cleaning supplies
- Housekeeping implements, such as brooms, mops, brushes

RELATION OF HOUSEKEEPING DUTIES TO NURSING SCHOOL
- Adequate knowledge of different types of equipment
  - Beds and linen
  - Dressing binders
  - Basins
  - Drinking tubes and pitchers
  - Intelligent understanding of the operating room needs and technics

SEWING ROOM
- Bolt goods requisitions
- Finished articles requisitions to stockroom
- 140 articles out of 180 articles made in sewing room
- Mending
- Discard
- Made-over articles

LAUNDRY AND LINEN ROOM
- Daily linen requisitions for clean linen sent to wards
- Maids' linen
- Linen to dietary department
- Linen to nurses' home
- Linen to interns, special nurses and Annex

RELATION OF HOUSEKEEPING DUTIES TO DIETARY DEPARTMENT
- Diet kitchens on the wards
  - Adequate knowledge of tray setup
  - Adequate knowledge of china and silver supply necessary
  - Adequate knowledge of china and silver necessary for
    - Light house tray, private and ward
    - Semi tray
    - Liquid tray

MORGUE
- Care normal and emergency

BACTERIOLOGY AND STERILIZATION
- Adequate knowledge for intelligent instruction of employes in handling and cleaning of precaution rooms
- Precaution dishes
- Precaution linen
- Precaution rooms

FOR NEAT APPEARANCE OF WARD SERVICE ROOMS AND KITCHEN

WARD:
Same as for sun parlor. Be sure air shafts are clean and window frames under shades are well dusted. Keep brass shining.

SERVICE ROOMS:
Be sure all corners are clean, doors dusted, shelves dusted and hopper cleaned. Use short handled mop to dust off partition ledges. Dust all electric light fixtures with the short handled mop. Do not neglect blanket warmer. Watch for dust under all pipes.

DIET KITCHEN:
Be sure refrigerator is spotless inside and out. Serving table shelves should be clean, trays shining, sugar bowls, salts and peppers clean. All shelves should be clean and in order. Steam table spotless inside and out. Trash can clean inside and out. Dust electric light shades. Keep silver shining. See that drawers have clean papers and are well kept. Keep cupboards clean and well arranged. Keep gas stove clean and well blacked. Keep tray racks clean. Watch for dirt on floor behind pipes, behind and under steam table and in all corners.

SUN PARLOR:
Watch for dust on window shades, radiators and window sills, behind doors, on glass in doors and on electric light fixtures. Keep floor looking as well as possible.

PRIVATE ROOMS:
Dust window sills and frames under shades; also, shades and transom shades when necessary; this can be done with short handled mop. Keep all brass shining and dusted, doors dusted and floor as clean as possible.

BROOM CLOSET:
Keep floor clean. Clean all equipment well before putting it away. Keep brooms and mops clean, well arranged and standing upright. Dust electric light fixtures.

SPECIAL HINTS:
After using dish mop or cloth, rinse and wring it out. Shake out and leave on window ledge to dry.

Kindly replace all dish towels and cloths in an orderly manner on the towel rack.

Dishes and any utensils used in making special drinks or lunches are to be washed by the special nurse using them or by the ward aid.

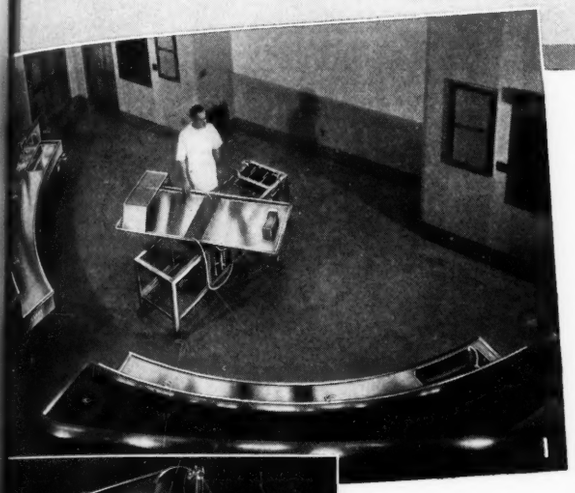
Built for Hospital Service

EVERY ELKAY "STURDIBILT" UNIT IS CUSTOM BUILT TO MEET INDIVIDUAL REQUIREMENTS AND SPECIFICATIONS

There is practically no limit to the many different types of hospital service in which ELKAY "Sturdibilt" Stainless Steel equipment can be used to meet technical and professional requirements. Its smooth, acid, stain and rust resisting stainless steel surface gives the utmost in sanitary protection, while ELKAY electrically welded and heavily reinforced construction assures a lifetime of service. Specify ELKAY "Sturdibilt" stainless steel equipment on all new construction, replacement and modernization projects.

We invite your inquiries. Our Planning Engineers will gladly submit plans and specifications.

ELKAY MFG. CO., 4709 Arthington Street, Chicago, Illinois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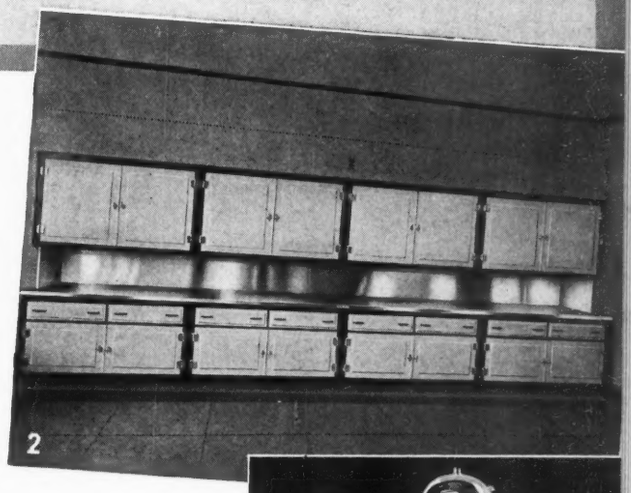
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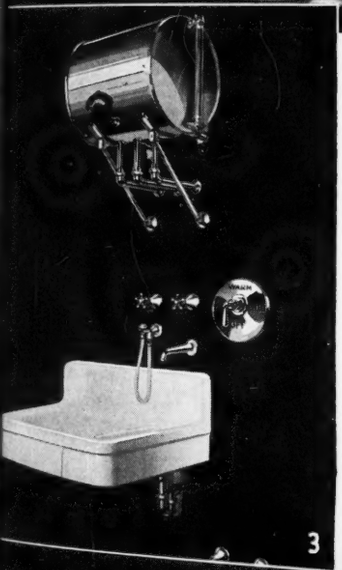
ELKAY "STURDIBILT" STAINLESS STEEL IS THE PREFERRED EQUIPMENT IN HOSPITALS AND INSTITUTIONS

1. Autopsy Room in University of Illinois Medical and Dental Building, Chicago, Ill. (Note Revolving Autopsy Table and circular stainless steel Sinks.)
2. Central Service and Supply Room in St. Joseph's Hospital, Louisville, Ky.
3. Supply Tank—horizontal style—for Infants' baths. 20 to 30 gallon capacity. Can be supplied in any capacity.
4. Supply Tank—vertical style—for Infants' baths. 20 to 30 gallon capacity. Can be supplied in any capacity.
5. Leg Bath. Can be supplied in any size, shape or capacity desired—either Stainless Steel or Monel Metal.
6. Arm Bath. Can be supplied in any size, shape or capacity desired—either Stainless Steel or Monel Metal.
7. Hydro-Therapy Tank. Can be supplied in any size, shape or capacity desired.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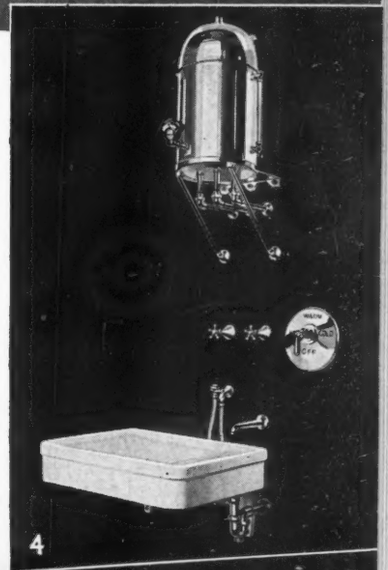
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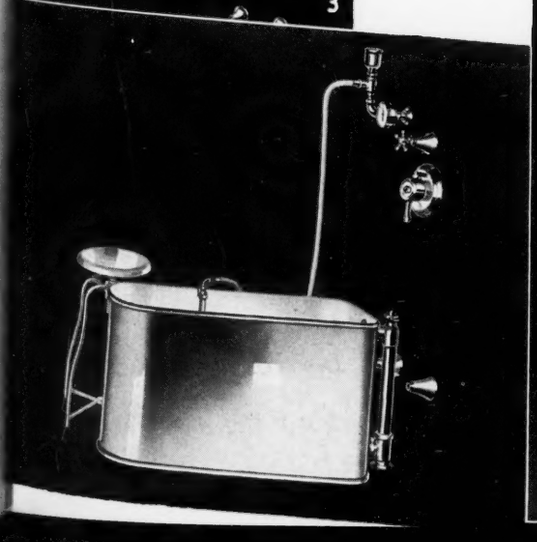

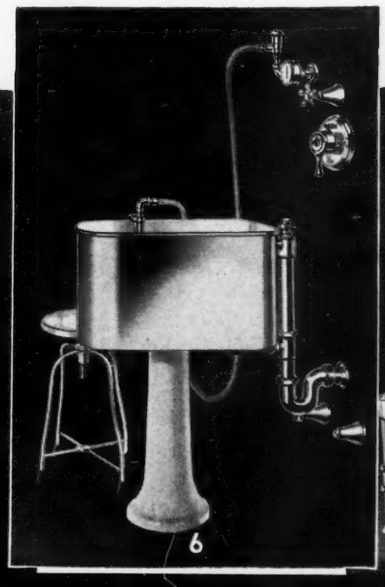
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Looking In on the Linen Room

LINEN at Salem Hospital is circulated through a central linen room with the exception of the linen from the nurses' home and that of the dietary department, the two mentioned being returned directly.

The linen room girl reports at 7 a.m.; her first duty is to carry two dozen dish towels to each ward diet kitchen. She then proceeds to the nursing school office where she collects the linen requisitions, which were made out on the preceding day by the head nurse of each ward or her assistant and sent to the office of the superintendent of the nursing school for approval.

The linen room girl's next duty is to return to her linen room, sweep and dust it and prepare to sort the first load of laundry that is being brought in to her.

Following this, she begins to fill the baskets, as per her requisition orders; these duties keep her occupied for eight hours each day. Surplus linen, when all requisitions have been taken care of, is placed upon shelves and arranged in an orderly manner to be used the following day.

At 7:30 a.m. the porters carry all linen baskets to the wards for which they are intended.

Emergency calls for extra linen are filled out and approved in the same manner as the daily demands but are filled and carried out immediately.

An inventory of all linen and blankets, including that of the nurses' home, is taken every six months. Every hospital is vitally interested in its linen inventory because therein lies the approximate amount of money to be invested for the provision of replacement linen for the next six months.

Monthly records are kept as follows: from the sewing room the housekeeper collects the discard record, the record of the number of articles mended, the production record and the inventory of material on hand. From the business office she collects the linen-in-circulation slips. From each of these a monthly report is written; one set of reports is for the office and one set is for the housekeeping records.

To keep the linen quota constant, a linen requisition slip for new articles is made out from the discard sheet, in addition to any articles left over from records taken from book marked "not made up month previous" and articles still needed to bring the linen up to quota.

Articles are replaced by half dozen or dozen lots when possible to facilitate the bookkeeping. The requisition is signed by the housekeeper, approved by the office of the superintendent, filled by the stockroom clerk and returned to the house-

ROUTINE INSTRUCTIONS FOR LINEN ROOM

MONDAY: Take towels to each diet kitchen, leaving about 24; also take up kitchen aprons and pot holders. Collect laundry slips from nursing school office at 8 a.m. Work during the day in the linen room sorting linen and filling baskets to be sent to the wards at 7:30 the following morning, with the exception of the maternity floor to which linen goes on the afternoon of the day ordered.

TUESDAY: Repeat the morning work of taking around dish towels and collecting slips from the nursing school office. The maids will leave their bundles of soiled linen at linen room door. Return to the maids one clean article of linen for each soiled piece brought to you. Do not give out any article of linen for which you do not get a duplicate. One clean spread is allowed each maid every other week.

The dietary maids will bring in their linen and receive in exchange clean linen duplicates of each piece. Finish the day by sorting linen and making baskets for the ward delivery.

WEDNESDAY: Give out dish towels and collect laundry slips. Get the small aprons from the laundry and the uniforms for the maids, and keep them until 11 a.m. to 12:30 p.m. when they will be called for. Give each maid her own uniform and one small apron in exchange for the one she brings to the linen room. Finish the day by sorting linen and making baskets.

THURSDAY: Collect the small aprons and the uniforms from the bags and take them to the laundry. Take dish towels to the ward diet kitchens and collect laundry slips. Make up baskets before 12 m. (The afternoon is the maid's day off.)

FRIDAY: Take towels and collect laundry slips. Receive the interns' and Annex linen from the laundry. Sort and bring Annex linen to the laundry. Sort the interns' linen and put it on the shelf in the linen room. Send it to the interns' apartments by porter No. 2 in the afternoon. Sort the special nurses' linen, put it on the shelf in the linen room and send it to their apartments by porter No. 1.

SATURDAY: Take towels around and collect laundry slips. Get uniforms and small aprons from laundry to give out at 11 to 11:30 a.m., dispensing one in return for each soiled one received. Give out clean wet and dry mops, one for each soiled mop received during the week. Keep a record of the soiled mops returned. (These may be brought to the linen room any day but clean ones are only given out on Saturday morning.) Finish the day by sorting linen and making up the laundry baskets.

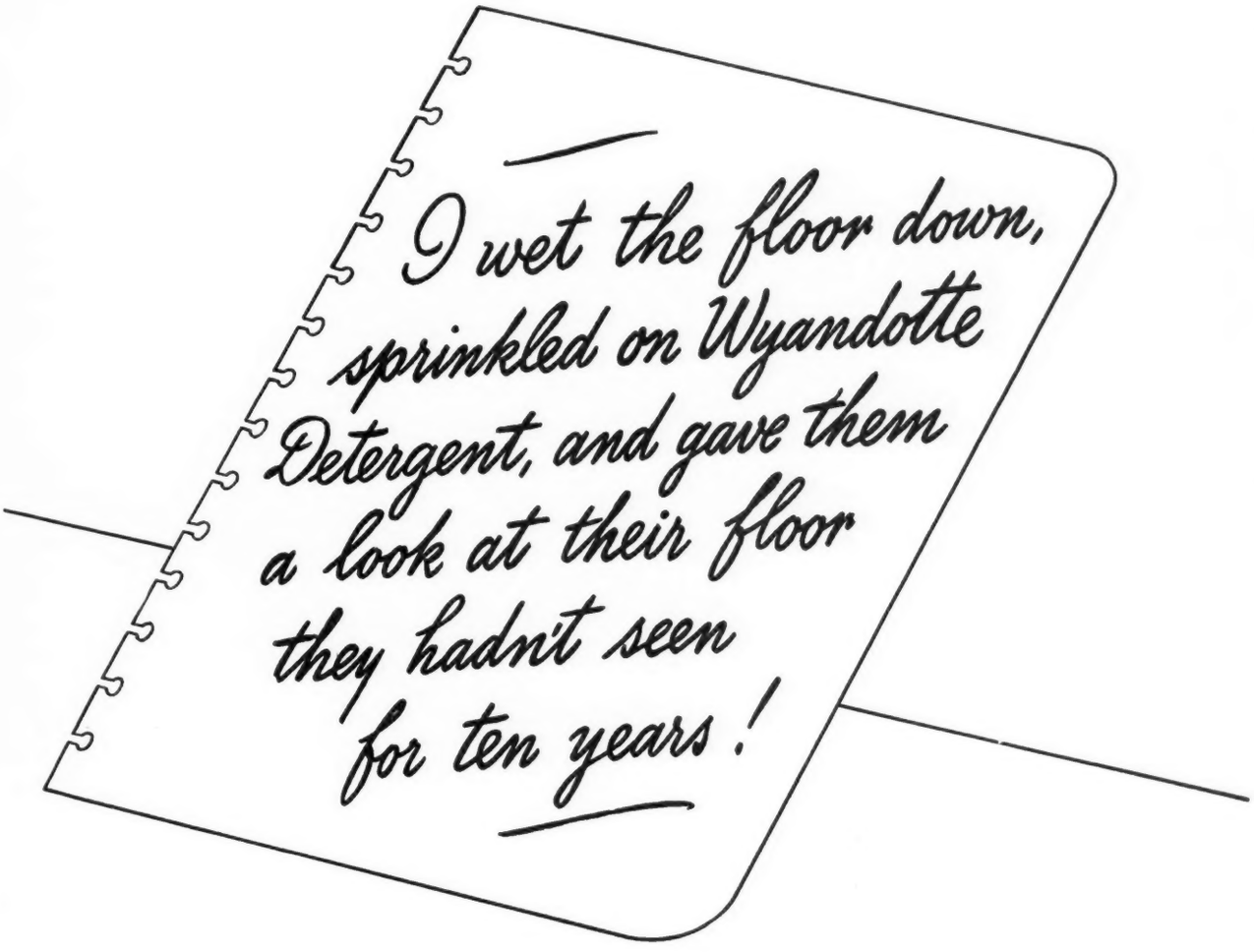
SUNDAY: Day begins at 9:30 a.m. Take towels around and gather up laundry as usual. Make up laundry baskets and do not leave until you see if any linen is needed on the wards. At 11 a.m. you may go if the baskets are all filled and all linen needs are taken care of on the wards.

GENERAL INSTRUCTIONS: Sweep linen room floor each morning and after each day's work is finished and do whatever dusting is necessary to keep the room clean at all times.

Do not forget to take uniforms and small aprons to laundry on Monday and Thursday mornings.

Send up all out-patient department linen each night.

From a successful salesman's notebook:



YOU might be amazed at what a beautiful floor you really have in your hospital! Why don't *you* try Wyandotte Detergent and bring out its original beauty?

Because Wyandotte Detergent rinses freely and leaves no slippery film to catch dirt, floors and walls stay *clean longer.*

For certain cleaning jobs use Wyandotte F-100. This product is an all-soluble cleaner especially adapted for de-waxing floors and for cleaning very dirty skylights and wood and red tile floors.

Your Wyandotte Service Representative will gladly discuss any cleaning problem you may have and give you the answer to it. No charge at all.

Wyandotte
PRODUCTS

Service Representatives in 88 Cities

THE J. B. FORD SALES COMPANY, WYANDOTTE, MICHIGAN

keeper, who then copies the amount of articles sent to the linen room to be marked and put into circulation. In the linen record book the amount of articles filled on the requisition sheet is copied and checked off against the discard or quota list. The requisition sheet is then returned to the stockroom.

On the same level as the laundry in the "domestic building" is the sewing room, a well-lighted, well-ventilated, comfortable room facing the nurses' home. The staff consists of the head seamstress and two assistants. They have three heavy duty machines. Each of the machines is equipped with two large spool holders.

The head seamstress makes all the draperies, chair covers and screen covers used in the hospital, besides most of the new articles of sewing. Frequently, she is called upon to reupholster a chair. The assistant seamstresses do all the mending.

In the course of a year thousands of new articles are made and put into circulation. In the year just ended 10,284 new articles were made and sent to the stockroom; 43,779 articles were mended and returned to circulation; 8676 articles were discarded. One day each week the head seamstress, under the housekeeper's supervision, discards any articles that she thinks should be taken out of circulation. Many of the discarded articles are made into smaller articles or are used for cleaning cloths.

Many sewing circles and individuals ask if they can be of assistance. The head seamstress furnishes the instructions and cuts the new material for them. In 1940 these societies and individuals made 1332 new articles for the hospital.

It is just as important to keep accurate records in the sewing room as anywhere else in the hospital. When raw material is requisitioned from the linen storeroom by the housekeeper and is sent to the sewing room, an entry is made on the raw materials card showing that the proper quantity has been removed from the storeroom, with a notation "to sewing room." In the linen stores cards there is also a sewing room card, which represents all raw material sent to the sewing room. When the foregoing entry is made on the raw materials card, a corresponding entry is made on the sewing room card, showing the receipt of the same quantity, with a proper description of the goods. When finished, goods are transferred from the sewing room to the linen stores room and entry is made on the finished goods card. At the same time an entry is made on the sewing room stores card showing the material used in the manufacture of these goods.

Finished goods is recorded on the finished goods cards at the estimated total values, which includes the material and labor cost, but the credit to the sewing room card is for the cost of the raw material used only. The estimated labor cost, which is the difference between the amount charged to the finished goods card and the amount credited to the sewing room card, is credited to the expense account, seamstress wages.

In order to keep the linen stock up to quota in the stockroom, a sewing room work sheet is kept in the housekeeping office. This sheet is a record of the articles that have been made each month. At the first of the month the housekeeper instructs the seamstress to make up those articles that were unfinished in the last month's quota, plus any new articles needed or any emergency orders that are necessary.

One day a week new articles made in the sewing room are put in the stockroom.

The linen replacement cost for 1940 was $6454.52, an average of $0.0966 per patient day.

Housekeeper Supervises Laundry

AT SALEM HOSPITAL the laundry comes directly under the supervision of the housekeeper. The laundry room is located on the ground floor level of the "domestic building." Windows on two sides give plenty of light. The room is particularly attractive and neat. The cement floor meets the gray lower half of the walls. The upper half of the walls is painted cream, blending in well with the white ceiling. The laundry is equipped with fluorescent lighting.

The staff consists of one foreman, one man on the extractors, one man on the drier, four girls on the flat work ironers, two girls sorting and folding, two girls on the presses and two girls for hand finishing.

All the employes work forty-six hours per week and take their meals at the hospital as part of their compensation. White uniforms are worn by both the men and the women.

The laundry equipment consists of two large and one small wash wheels, one drying tumbler, two extractors, one starch cooker, one two-roll return ironer, four presses, three hand irons and two soapstone tubs for small hand articles.

Just off the laundry is a small room in which the foreman has his office. In conjunction with this is the space for the soap powders, scours, blueings, bleaches, starch, stain removers and pH indicator on desk. Here, also, the extra covers for the ironers and presses are kept.

A second small room adjoins the laundry where are tubs and irons for the use of employes who live in. There is also a good-sized laundry yard where they may dry their clothes.

In 1933 a special study of the laundry operation revealed that the hospital cared for 1200 pounds of soiled linen per day at a cost of $0.0142 per pound, exclusive of electricity, steam, rent, interest and the living cost of six girls. This figured out to 7 pounds of linen per day per patient on the general wards and 11 pounds on the maternity and private wards. The cost per patient per day for all laundry service, exclusive of electricity, steam and interest, was 13.1c.

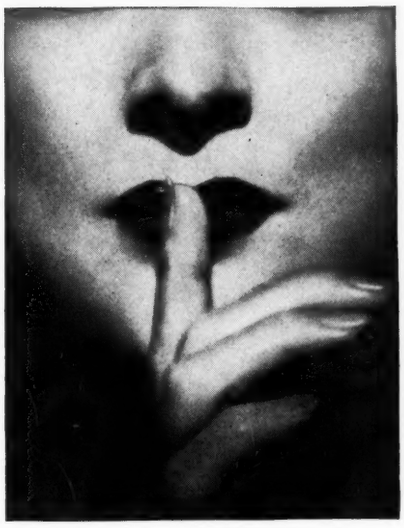
WEEKLY SUMMARY

Soiled linen from wards, operating and delivery rooms	369 bags
Weight of above	16,557 lbs.
Weight of all other work	3,137 lbs.
Daily average weight	3,366 lbs.

Starch Work: 215 nurses' white uniforms; 93 nurses' blue uniforms; 327 nurses' white aprons; 212 nurses' white cuffs; 143 employes' uniforms; 230 maids' aprons; 22 doctors' coats; 10 social service workers' coats; 14 interns' white uniforms; 13 interns' dress shirts.

Wherever "Women in White" Tend Patients

Quiet is Appreciated



PATIENTS are easily irritated, quickly made uncomfortable, slow to recover *amid noisy surroundings.* In hospital corridors, diet kitchens, nurseries, nurses' stations, lobbies, operating rooms, elevator cabs, wards, private rooms, Celotex Sound Conditioning aids patients, doctors, nurses, and administrative staff.

Solidly developed through more than fifteen years of field experience in Sound Conditioning hundreds of hospitals, Celotex Sound Conditioning Service offers you:

1. *Proved engineering practice.* **2.** *Uniformly dependable sound conditioning products.* **3.** *Results guaranteed by responsible local Celotex Sound Conditioners.*

CELOTEX

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SOUND CONDITIONING

In Canada: Dominion Sound Equipments, Ltd.

THE CELOTEX CORPORATION • CHICAGO

Food Service

CONDUCTED BY
DOROTHY DeHART

Food Service at Salem

THE organization chart of the dietary department of Salem Hospital reveals a head dietitian and three assistants; in the main kitchen, a chef, baker, vegetable cook, pot washer and kitchen man; in the serving room, five waitresses, four serving maids, one dishwasher, one cleaning man who works in the whole dietary department, a food storeman, an hourly cleaner (two days a week), two relief waitresses, one relief man and one part-time serving maid; in the diet kitchen, three maids.

The head dietitian is responsible for the purchase, preparation and serving of all food, for the out-patient food clinic and for all dietary teaching, as well as for the cleanliness of the entire department.

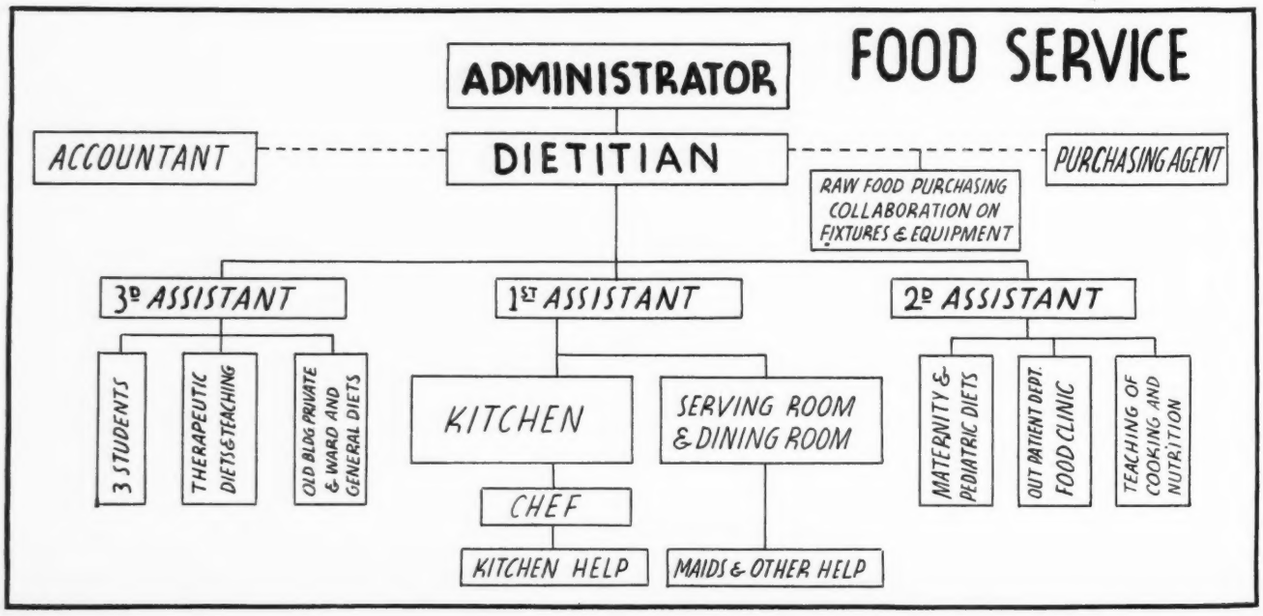
One assistant is in charge of the kitchens, serving room, dining rooms, special parties and hiring employes; another is in charge of food service on the lower priced private floor, of private and ward food service in the maternity and children's building, and of teaching nutrition and cookery. The third has charge of therapeutic diets, the practical teaching of student nurses, food service on the higher priced private floor, all ward food service and the teaching of diet therapy classes when these are not taught by head dietitian.

Time schedules for dietary workers are arranged so that all except one man work split time. Everyone has one full day off each week. Three substitutes are hired, serving for a different person each day. One of these, for example, is a man who has been trained to substitute for chef, baker and all other male help. All dietary maids live in; the men, out.

A copy of each employe's duties is posted in the department. Each girl when going off duty signs the time in a book provided for that purpose in the dietitian's office. It is impossible for a dietitian always to be in the serving rooms and dining rooms until all workers have finished. If each girl signs off duty when her work is finished, it is possible to tell whether she has slighted her work or taken too long. Time studies are done for each worker from time to time. From these studies time schedules have been prepared. Thus, any worker can be eliminated who is unable to do the work in the average time.

Food goes to the floor diet kitchens in electric carts. In the ward diet kitchens trays are served by student nurses under supervision of head nurses; ward helpers assist in carrying trays. The dietitians are responsible for the food until it reaches the patient and they check the service in the various kitchens frequently. Waste from trays is checked by the dietitian by observing each tray as it is returned. This is the best way of finding out the popularity of different dishes.

Private patients and patients on special diets are visited by a dietitian each morning between 10 and 12 o'clock. Printed menus are not provided, the patient being told by the dietitian the dinner and supper menus. If he does not care for the menu in part or whole, the dietitian suggests a substitute. She can do this knowing what is in the ice chest or what may be procured before the meal hour. If roast lamb is being served, for example, and the patient does not like it and does not want chicken because he had it the day before, the dietitian may suggest steak or lamb chops. If the patient does not care for the supper and would like oyster stew there is still time to order the oysters for supper. Many kinds of vegetables and desserts are available as well as a



variety of supper dishes that can be made before serving time. Breakfasts are routine, the patient usually giving a standing order.

The food is conveyed by a trained diet kitchen maid in electric carts to the private floors. This diet kitchen maid with the help of the floor maid serves the trays. A dietitian is always present to check each tray as it goes out. Floor or special nurses are not allowed in the floor kitchen except to carry trays as each is ready for the patients. This method has been found satisfactory because it eliminates all confusion in the floor diet kitchen and reduces the responsibility of all mistakes to one person, the dietitian. She knows the patients on her floor; if there are any last minute diet changes it is her responsibility to make the food changes. Some special nurses in overanxiety for their patients may suggest foods of which the dietitian would not approve.

The head dietitian does the buying. Prices of perishables are received each week from several companies, comparative prices always being kept on a regular form on her desk. Purchasing is on the basis of the quality and the price. Meats are usually purchased once a week; beef is bought mostly in hind quarters and lamb is bought whole. Butter and eggs are purchased twice weekly; fruits and vegetables, daily as the needs and market conditions vary.

Canned goods are contracted for each year, the stock being kept in a large basement storeroom. Before the contract is given, samples from several companies are tested for quality, count, weight, fullness of can and price by the four dietitians with the cooperation of the superintendent.

Groceries are purchased as needed during the month, the largest supply being bought at the first of the month. Daily requisitions of purchases are sent to the main office to be typed in triplicate, one for the vendor, one for the bookkeeper and one to be returned to the dietitian for her signature.

The foods storeman receives all food. It is then weighed, checked and a receiving slip is sent to the dietitian's office. She checks the receiving slip with the order given and inspects the food for quality. The receiving slip is then sent with the purchase slip, which is signed by the dietitian, to the bookkeeper to be checked with the bill.

All food bills are checked by the dietitian for unit price. Perpetual inventory cards are kept in the bookkeeper's office. Actual food inventories are taken each month by the storeman and the bookkeeper, the bookkeeper computing total food costs.

The dietitian keeps an accurate meal count in the dining rooms, each waitress being responsible for charting after each meal the number of persons waited on. A ticker is used for the count in the employes' cafeteria. Guest trays for patients are recorded. All food sent to the nurses' residence is by requisition and the total cost of this is divided by last month's meal cost, which gives the equivalent of the number of meals sent to the homes. At the end of each month the dietitian sends to the bookkeeper's office a meal count report under following headings: No. 1—Copy of Meal Count—to this she adds the patients' meals [census, less babies, multiplied by three], which gives the total meal count for the month; No. 2—Copy of monthly cost sheet (below at left).

MONTHLY STATEMENT OF FOODS CONSUMED IN SALEM HOSPITAL

Foods	*October 1941*	*October 1940*	*1941 to Date*	*1940 to Date*
Meat	$1,962.37	$1,712.15	$19,731.27	$15,409.12
Fish	236.90	206.47	2,356.02	1,798.46
Eggs	455.31	336.20	3,748.26	2,845.09
Milk	1,320.07	1,035.98	12,143.38	10,121.32
Butter and cheese	500.87	385.23	4,779.05	3,753.28
Cereal and breadstuffs	323.56	272.85	3,052.98	2,359.04
Fresh vegetables	296.72	237.76	3,313.73	2,687.63
Canned vegetables	180.27	187.63	1,982.26	1,898.30
Groceries	311.24	218.61	2,671.75	2,405.22
Ice cream	165.50	136.32	1,574.37	1,258.60
Sugar	147.53	64.52	796.19	677.87
Fresh fruits	307.89	234.37	3,067.57	2,436.87
Canned fruits	281.17	289.00	2,561.44	2,096.08
Tea, coffee and cocoa	130.25	100.35	1,345.74	1,149.27
Other beverages	126.71	100.73	1,196.21	966.67
	6,746.36	5,518.17	64,320.22	51,862.22
Less offsets	542.35	488.21	5,537.02	5,899.80
Total cost of food	6,204.01	5,029.96	58,783.20	45,963.02
Salaries and wages	1,802.01	1,498.50	17,904.07	14,882.28
Dishes and kitchen utensils	23.07	19.90	894.33	823.61
Ward dishes	90.39	14.61	520.00	723.04
Equipment	.....	299.05	223.20	1,709.68
	1,915.47	1,832.06	19,541.60	18,138.61
Total dietary	$8,119.48	$6,862.02	$78,324.80	$64,101.66
Number of Meals Served				
Private	4,554	3,857	50,448	42,629
Intermediate	3,717	3,495	44,076	33,615
Ward	6,387	7,092	62,121	69,177
Nurses	12,179	11,758	115,112	105,693
Other employes	4,539	4,688	42,133	34,234
Total meals served, excluding dietary	31,376	30,890	313,890	285,348
Dietary meals	2,237	1,929	22,404	19,547
Total meals served	33,613	32,819	336,294	304,895
Food cost per meal	20.1c	16.8c	19.1c	17.0c

WASHING AND STERILIZING DISHES

TO WASH DISHES:

Run hot water into machine with overflow pipe out.
Put overflow pipe in place (in drain), close hood.
Turn control handle to rinse position and hold until tank is filled with hot water to the top of the overflow.
Open hood and put in the strainer pans.
Sprinkle 1/4 cup dishwashing compound over the pans.
Use cross rods rack for saucers, plates and flat pieces.
Use screen bottom rack for cups, bowls, glasses and silver.
Do not stack one piece on top of another.
Slide rack of dishes into machine.
Turn control handle to washing position; allow to wash about one minute.
Turn handle to rinse position and hold while you count five slowly.
Open opposite side of hood and remove rack.
Stack dishes on shelf until all are washed and ready to sterilize.

TO STERILIZE DISHES:

Drain water from tank.
Slide rack of dishes into machine and close hood.
Turn on steam connection one-half turn and leave six minutes; time by egg timer.
Open hood and remove rack.
Let dishes dry without use of towel.
Polish glasses and silver with towel.

Meal Count for Month and Year

Meal count for December 1941:		
Patients' meals	15,073	
Employes' meals	18,231	
Total meals served	33,304	
Meal count for year 1941:		
Patients' meals	188,565	
Employes' meals	216,054	
Total meals served	404,619	

Meals Served in December 1941 Dining Rooms

Doctors	603	
Dietitians	316	
Staff	2,174	
Students	4,906	
Graduates	1,965	
Specials	1,067	
Clerks, x-ray, miscellaneous	714	
Dietary employes	1,786	
Employes	4,046	
Total dining room count		17,577

Supplies and Parties

Supplies, nurses' home	344	
Supplies, Annex	32	
Supplies, "73"	18	
Staff meetings	19	
Parties	241	
Total in supplies and parties		654
Total meal count		18,231
Total patients' meals		15,073
		33,304

The average meal cost for raw food for the year 1940 was 17.2 cents; for 1941, it was 19.3 cents.

All canned goods stored in the basement are requisitioned out in cases as needed to the grocery storeroom, where they are placed by dozens or half dozens on the open shelves. This storeroom contains all groceries on shelves and in barrels—case lots are not kept in this room—ready for quick requisitioning to the kitchen. Perishables are kept in separate refrigerators, one each for meats, milk, fruits, butter and eggs and vegetables, in charge of the storeman.

The storeman delivers twice daily to kitchen and diet kitchen. Foods are requisitioned on special forms by the chef and by diet kitchen maids and are approved by a dietitian. All supply cans for the wards for crackers, tea, cocoa and sugar are filled and delivered by a dietary employe. Milk in bottles is delivered twice daily to all wards.

The storeman is responsible for receiving, storing and issuing all food supplies besides receiving all other hospital supplies. He assists the bookkeeper in taking monthly inventories.

All food is prepared in the main kitchen and bake shop except individual special orders and foods not on the main menu for special diets and for private patients. These are prepared in the diet kitchen by the three maids with the help of nurses, as required to complete their diet kitchen training. For instance, if beef juice is ordered, the nurse makes it enough times so that the procedure is firmly planted in her mind but not to the extent that it is a task that has to be performed. When a task becomes routine, it is taken over by the maid and the student's time is spent in learning other important cooking technics.

Menus are blocked out for one week at a time—all meats, main supper dishes, desserts. A daily menu is made out for six different groups. Usually, the main dishes are the same but many times articles served to well people (nurses and doctors) are not suitable for sick people. Roast pork, for example, may be served to nurses but not to patients. Too, different groups may be served a different cut of meat, *i.e.* rump steak to nurses, cube steak to employes and sirloin steak to private patients.

Except for chicken and ice cream on Sunday and for fish on Friday, great care is taken not to serve the same dishes on regular days. Dinner is served at noon throughout the house. Distinctive New England dishes, such as baked Indian pudding, boiled dinner, fish chowder and apple pie, appear on the staff's and employes' menus more often than on patients' menus.

The food for all weighed or calculated diets — diabetic, gastric, weighed caloric—is prepared by senior and junior nurses in the main diet kitchen. This is taken in bulk in an electric cart to the special diet kitchen, which is on the medical floor. The senior diet kitchen nurse or the junior diet kitchen nurse weighs out the foods for each tray and carries the tray to the patient on whichever ward she may be. In this way the nurse has closer contact with the patients for whom she is writing and preparing the diet. She can find out their likes and dislikes and can see the benefits of the diet. This special diet kitchen is under the direct supervision of the therapeutic dietitian.

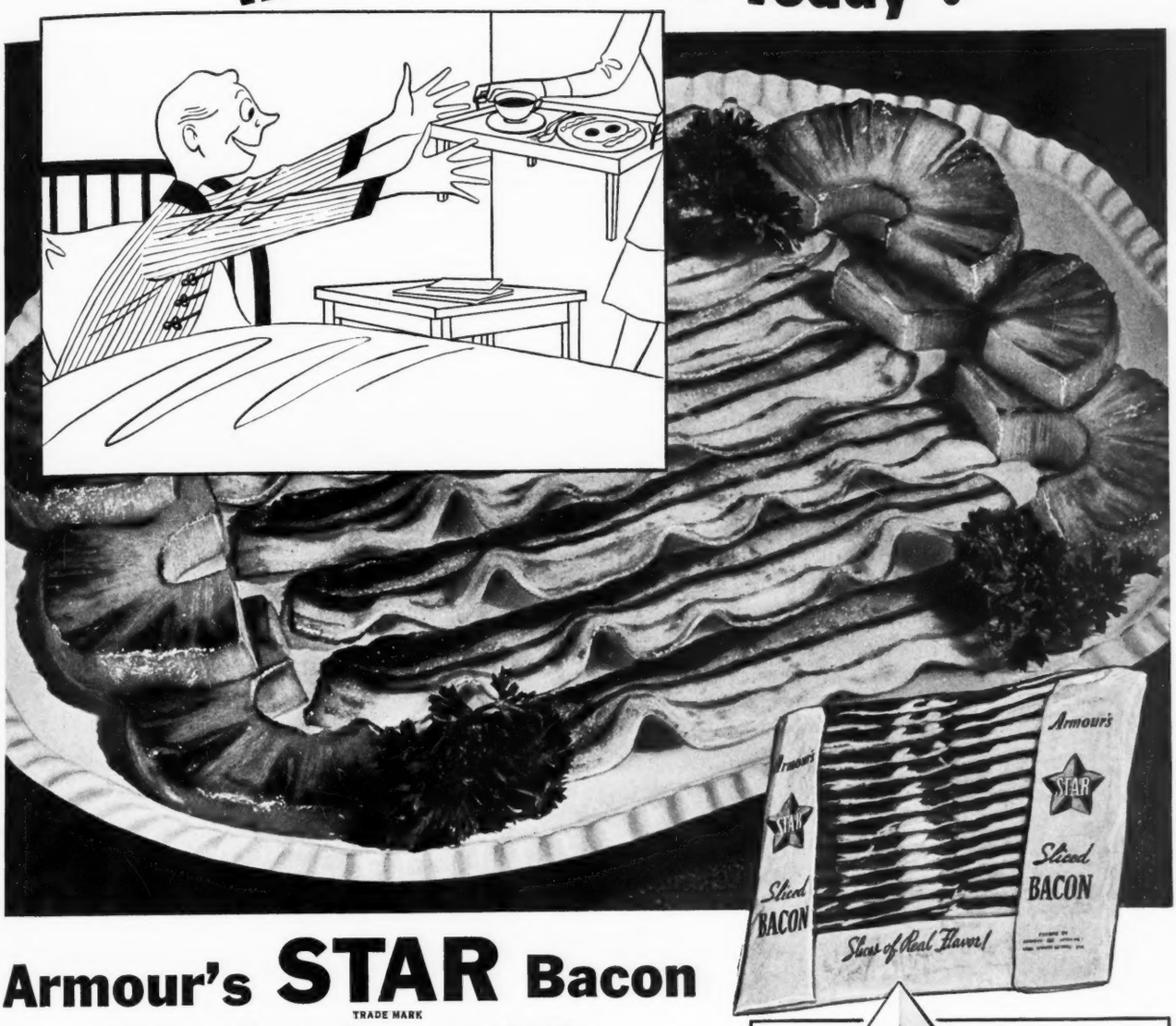
All patients on a special diet are visited by the dietitian as needed and their diets are explained to them in the different stages of progress. Their likes and dislikes are catered to as much as possible.

Special diets that are not calculated but are slight variations of the normal, such as high vitamins, low fat and high or low caloric, are written by the third diet kitchen nurse and it is her responsibility to prepare and place all extras for these patients in the electric food trucks for the various wards. These diets are served by the floor nurses with the regular ward trays.

At times there are many diets in the dining room, such as obesity, low

Tray favors for 15 holidays were prepared last year by the Hospital Aid Association. The dietitians used to make them but no longer have time.

How Many Healthy Appetites In Your Hospital Today ?



Armour's STAR Bacon

TRADE MARK

Makes Convalescents Sit Up and Take Notice!

(HAS YOUR STAFF'S APPROVAL, TOO!)

☆ Think a minute, Miss Dietitian. Aren't there a *lot* of patients in your hospital right now who'd enjoy the Star Bacon dish shown here?

So why not make this thoroughly digestible, high satiety-value meal a part of today's menu?

You'll find that Star Bacon will help bring back the sparkle to convalescents' eyes...

Because *this* bacon is sugar cured and hardwood smoked in Armour's own secret way...for the very best of inviting flavor and crisp tenderness...

And you'll discover, too, that when you plan a Star Bacon meal like this one, you can figure unit costs to the very last fraction of a cent!

So you'll be pleasing your patients ... and keeping your food budget in line, all at the same time!

And remember this...the Staff Dining Room can use this Star Bacon dish as a feature dish often this month!

If you haven't plenty of Star Bacon on hand right now, it's a good plan to get in touch with your Armour Representative right away. He'll show you the convenience of the Star Bacon package...26 to 32 slices per pound, arranged for easy cooking and easy cost figuring. He'll give you facts about the important place Star Bacon can fill in the hospital dietary.

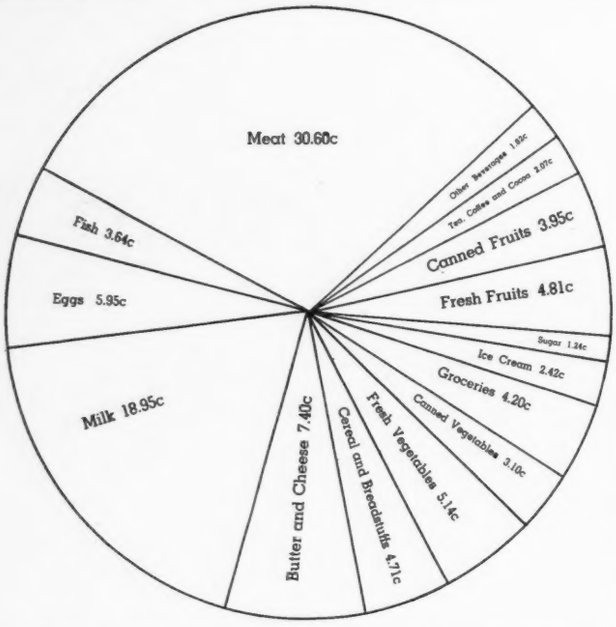
ARMOUR AND COMPANY

ARMOUR'S 75th ANNIVERSARY

For Those Really Hungry Cases . . .

Armour's STAR Ham!

Armour's Star has won a real reputation as America's Most Delicious Ham. And it's Tender-Tested before you buy it, too! What's more . . . a good serving of Star Ham provides the average adult's daily Vitamin B_1 requirement . . . in a very appetizing, fully assimilable form. Better add Star Ham to your meat list now.



How Salem's food dollar is divided, with meat and dairy products bulking largest. A table showing the annual food consumption per hundred patients appears in The Hospital Yearbook, Twentieth Edition.

fat, allergy and gastric. These are written by the third diet kitchen nurse and it is her responsibility to prepare and to send to the serving room all extras and variations for these diets.

Food for personnel is sent to the serving room where it is served from steam tables. Cafeteria service is provided for the employes and waitress service, for the other personnel.

There are four dining rooms: interns', graduate nurses' (floor duty, specials, assistant head nurses and clerks), students' and employes'.

The supervisors, head nurses, dietitians, technicians and heads of departments eat in the student nurses' dining room at reserved tables for six after the students' meal hour. This half hour is a social one and is much enjoyed by all. The various groups are not segregated. Each person has a definite place at table but there may be a dietitian, a technician, an operating room supervisor, a head nurse, an instructor and a social worker at the same table. This makes for good feeling and closer cooperation throughout the hospital. The dietitians sit at different tables and each can, therefore, supervise the waitress service at her table and note dislikes and comments. With a dietitian at the table the conversation is less likely to center on food; if it does, the tactful dietitian can steer it into other channels.

The menu for this group is essentially the same as that served students and graduates except for a few extras, usually for supper, in the form of more elaborate desserts and salads and coffee every night. Sometimes when everyone is particularly nerved up or overworked and life looks a little dark, an especially good supper is planned, such as broiled live lobster or steak and mushrooms. This always makes the horizon brighten and everyone leaves the dining room with a kindlier feeling toward her fellow workers and her lot in an institution.

While the interns eat in a different dining room their menu is essentially the same as that of the supervisors except that if the meal happens to be of a type better suited to feminine taste than to masculine cold meat may be added or lamb chops or steak. Because interns like ice cream on top of all kinds of desserts, if any extra is available they are allowed to have it. This they regard as a great treat. When there are only two or three on duty for a week end or Sunday, they are allowed to invite supervisors or head nurses to dine with them. This provides a pleasant social time and does not interfere with their duties in the hospital.

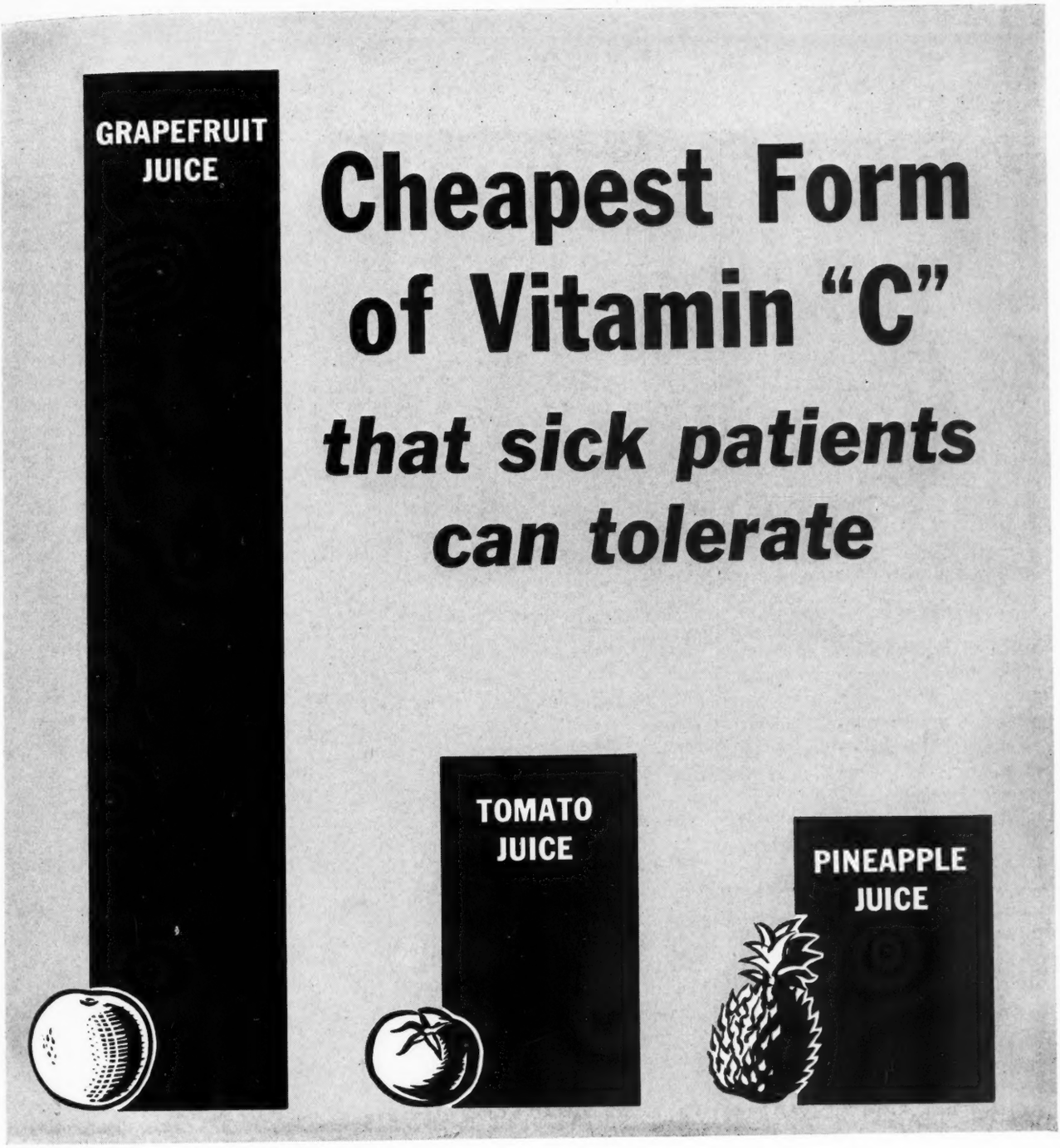
Holidays and special days during the year are observed for patients in the form of some favor on their tray, these being appropriate for the day: Washington's Birthday, candied cherries tied with blue ribbon on a red paper hatchet; May Day, May baskets. In the past the dietitians made these favors but as the hospital grew and work increased it was impossible to find the time for this activity. During 1941 the Hospital Aid Association furnished favors for 15 different days. Attractive and appropriate, they have been greatly appreciated by the patients.

If a patient's birthday takes place while he is in the hospital and if he has been there a long time or if it is felt it would especially please a patient with a shorter stay, a member of the family is invited to have dinner with him as a surprise. A birthday cake is provided with ice cream and flowers or a card and all nurses on the floor extend congratulations. Sometimes the wedding anniversary of a patient is celebrated, which is always greatly appreciated.

Nourishments are served from each floor diet kitchen. The head nurse orders for her twenty-four hour requirements each morning oranges, lemons, ginger ale, moxie, grapejuice, eggs, beef tea and the like. These orders are checked by the dietitian, filled by the storeman and a waitress or porter delivers them to each ward before 10:30 a.m.

This is not an ideal arrangement because it is hard with many special nurses on duty to control the amount used. A nourishment kitchen would be better but with the main kitchen in a separate building a nourishment kitchen in the hospital building would be hard to supervise. There is no count kept of patients' nourishments. Nurses and employes have nourishments between 10 to 11 a.m.; these are counted. Cost is computed separately and is added to the meal count at average cost.

Many group parties and meetings take place at which the dietitians furnish the refreshments. If a few wish to play cards and have cookies and coffee, these refreshments are sent to the nurses' home by the dietitians. Students have parties in the home, the hospital furnishing ice cream, cookies or cake. Farewell dinners given to those who are leaving the institution are at regular mealtime but are more elaborate, usually including steak or lobster. Many times the birthday of a member of the nursing or intern staff or other official personnel is observed



Cheapest Form of Vitamin "C"

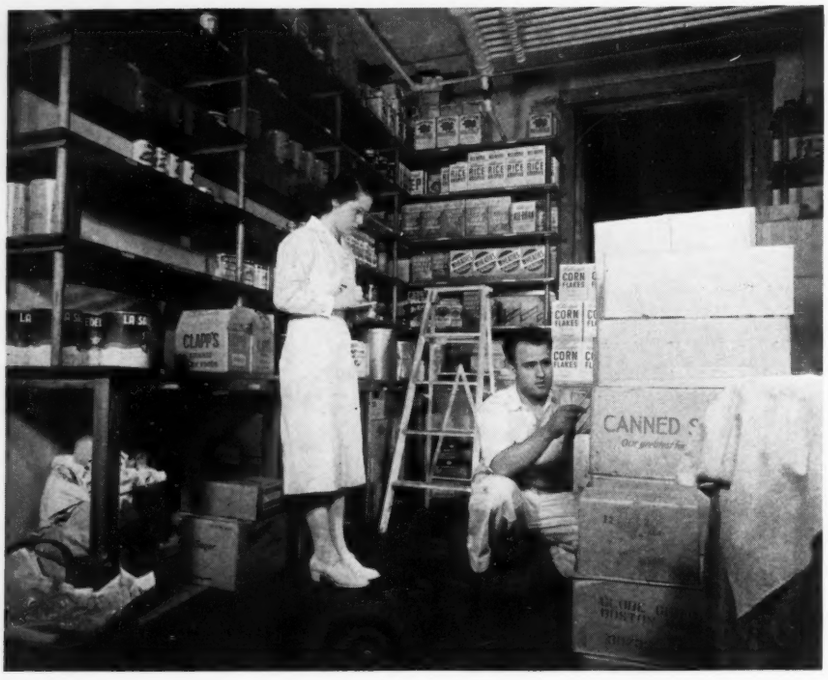
that sick patients can tolerate

This chart shows the relative amount of Vitamin C in ten cents worth of the three leading canned juices. Actually, canned Florida grapefruit juice is cheaper than any other natural source of Vitamin C except raw cabbage, which is not regarded as suitable for most hospital diets. Also—grapefruit juice is far cheaper than synthetic Vitamin C.

Recent research indicates that anesthetics frequently reduce Vitamin C levels to within the range of clinical scurvy. Fever, toxic conditions and infections also cause large loss of C. Many drugs such as thiazole and sulfapyridine seriously interfere with vitamin metabolism.

In your hospital you can make good this depletion of C—inexpensively—by including canned Florida grapefruit juice in the daily diet. In flavor, canned grapefruit juice is practically indistinguishable from fresh. Your patients will accept it with relish.

FLORIDA *Grapefruit Juice* **IN CANS**



The grocery storeroom from which goods are ready for quick requisitioning.

in the dining room by a special dinner with birthday cake. Sometimes favors are placed in the cake, which causes much fun and excitement.

Each month at the doctors' staff meeting refreshments are served, usually crackers and cheese, sandwiches or doughnuts with coffee. These are left on the table in the conference room. After the meeting is over, which may be 11:30 p.m., a waitress clears the table and washes the dishes.

Private patients may have trays for guests at any mealtime. These are usually served in the patient's room. If the patient is very ill guests may have their trays in the sun porch. This service is greatly appreciated by patients, who enjoy having a friend or member of the family dine with them even though they are sick in bed. At Christmas and Thanksgiving there are many guests, sometimes a patient having three or four. On such occasions a small table is set in the room or the sun parlor is used. Christmas and Thanksgiving meals are always served in courses.

Semiprivate and ward patients are not encouraged to have guest trays but in case of a very ill patient or a bad storm or an emergency this service is permitted. Following are the charges for guest meals: breakfast, 75 cents; dinner, $1, and supper, 75 cents.

The Aid Association service shop provides coffee, sandwiches, sodas and ice cream at current prices, thus providing a service to visitors, doctors and employes.

The out-patient food clinic, which has been described in these columns,* is open every day during the regular hours. All out-patients requiring a diet are referred to the dietitian by the doctors in charge. The patient's food history is taken, he is encouraged to talk in detail of his food habits and a careful record is made of a typical food intake for the day. Information regarding family home life, working conditions and economic status is obtained.

The diet is calculated according to the doctor's prescription but contains the types of food that the particular patient is able to purchase. Racial habits are considered. The intelligence of the individual patient guides the dietitian in making the diet. Sometimes the social worker is consulted regarding her knowledge of the patient's home conditions.

On return visits the patient's program is checked by the dietitian and changes are made in the diet according to recommendations made by the doctor. House patients discharged to the out-patient department are always referred to the food clinic dietitian for a checkup on their diets.

One afternoon each week there is a diabetic clinic averaging from 12 to 16 patients. A dietitian is in attendance to assist the doctor. These cases are carefully followed up and cards are sent to patients who do not return at the time stated.

Models are used to help patients understand the amounts and kinds of food. Posters and exhibits help in the health education of the people of the community who come to the out-patient department. One of the main objects of the food clinic is to teach out-patients the importance of proper foods for maintenance of health.

For several years during the vacation months of July and August two senior college students from Massachusetts State College majoring in home economics have given their services in order to get experience in the diet kitchen. They work with the maids and nurses, doing regular routine diet kitchen work, serving ward and private trays, observing in the main kitchen, serving room and bake shops and relieving for two weeks for the maid. This gives them a knowledge of the dietetic field in a hospital and helps them to decide whether or not to take up hospital dietetics.

The girls are junior student dietitians and are required to live in the nurses' home and are under student nurses' rules. Association with student nurses and living in the home give the students the nurses' point of view as well as the dietitians' and are of great help in familiarizing them with institutional life.

The department operates under difficulties resulting from the growth of the institution without a comparable growth in the kitchen facilities and from the fact that, while much study has been given to modernization of kitchens, this has not been accomplished. The dietitians and their staff accept this situation as a challenge and are putting forth their best efforts to provide a good food service until the return of peace makes possible modern facilities and equipment for the kitchen.

*Pratt, Oliver G.: Food Clinic—A Health Service in the Small Hospital, The MODERN HOSPITAL **52**:48 (Jan.) 1939.

The Newer Concepts of Meat in Nutrition

Meat . . .
in the Management of Enteric Disease

IN THE dietary management of many intestinal disturbances such as colitis, the dysenteries, and acute catarrhal enteritis a low-fiber, low-residue diet is indicated. Hence many foods ordinarily depended on for vitamins and minerals must be eliminated because of their content of indigestible cellulose which proves irritating to the hypersensitive intestinal tract. Easily digestible, low-fiber foods must carry the burden of satisfying nutritional requirements. Furthermore, since the need for thiamine and other B complex vitamins is increased in these conditions, the dietary must be especially rich in these vitamins.

According to Donald and Brown,* protein derived chiefly from red meats, liver, kidney, sweetbreads, and lean pork is the most important food for the patient afflicted with ulcerative disease of the colon. They concluded from their investigation that the prognosis is greatly improved by a high protein diet.

Because meat and meat specialties (kidney, liver, and sweetbreads) contain little or no irritating fiber, and are almost totally digestible, they are pre-eminent in low-residue diets as food sources of biologically adequate proteins, the essential B vitamins and the minerals iron, copper, and phosphorus.

*Donald, C. J., Jr., and Brown, P. W.: Ulcerative Colitis. Am. J. Digest. Dis. 7:234 (June) 1940.

The Seal of Acceptance denotes that the statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

American Meat Institute
CHICAGO

Salem Dinner Menus Used in November 1941

Edith L. Hoadley
Chief Dietitian, Salem Hospital, Salem, Mass.

Day	Soup or Appetizer	Meat or Fish	Potatoes	Vegetable	Relish	Dessert
1.	Cream of Corn Soup	Roast Fillet of Beef	Mashed Potatoes	Spinach		Rice Pudding With Raisins
2.	Tomato Bouillon	Roast Turkey, Dressing	Sweet Potatoes, Southern	Squash	Cranberry Sauce	Vanilla Ice Cream, Strawberry Sauce
3.	Chicken Noodle Soup	Roast Lamb	Escalloped Potatoes	Frosted Green Peas	Mint Jelly	Hot Gingerbread, Whipped Cream
4.	Barley Broth	Ragout of Beef	Baked Potatoes	Broccoli		Apricot Whip With Cream
5.	Vegetable Soup	Broiled Chicken	Delmonico Potatoes	Des Moines Squash	Cranberry Jelly	Chocolate Blancmange, Whipped Cream
6.	Tomato Juice	Broiled Sirloin	Baked Sweet Potatoes	Frosted Wax Beans		Raspberry Ice Cream
7.	French Pea Soup	Baked Flounder	Parsley Potatoes	Buttered Carrots	Tartare Sauce	Apple Brown Betty With Cream
8.	Chicken-Vegetable Soup	Broiled Lamb Chops	Baked Potatoes	Creamed Frosted Asparagus		Coffee Gelatin, Whipped Cream
9.	Mushroom Broth	Chicken Pie	Mashed Potatoes	Harvard Beets	Cranberry Sauce	Prune Ice Cream
10.	Consommé	Roast Fillet of Beef	Paprika Potatoes	Frosted Lima Beans		Plain Bread Pudding, Foamy Sauce
11.	Lamb Broth With Macaroni	Roast Duck, Dressing	Pimiento Potatoes	Chicory	Applesauce	Steamed Carrot Pudding, Hard Sauce
12.	Tomato Bouillon	Broiled Sirloin	Baked Potatoes	Squash		Chocolate Ice Cream, Chocolate Sauce
13.	Beef Broth With Rice	Broiled Lamb Chops	Mashed Potatoes	Creamed Cauliflower		Blueberry Pan Dowdy With Cream
14.	Cream of Celery Soup	Baked Bluefish	Stuffed Potatoes	Stewed Tomatoes	Lemon Slices	Applesauce Shortcake, Whipped Cream
15.	Beef Bouillon	Roast Lamb	Delmonico Potatoes	Frosted Green Beans		Banana Custard
16.	Vegetable Soup	Roast Chicken	Baked Potatoes	Broccoli	Cranberry Sauce	Coffee Ice Cream
17.	Scotch Broth	Broiled Calves' Liver	Mashed Potatoes	Frosted Green Beans	Currant Jelly	Cottage Pudding, Chocolate Sauce
18.	Tomato Noodle Soup	Broiled Lamb Chops	Escalloped Potatoes	Cauliflower, Hollandaise Sauce		Fruit Gelatin, Custard Sauce
19.	Chicken Soup With Rice	Roast Fillet of Beef	Baked Potatoes	Buttered Beets		Newton Tapioca With Cream
20.	Consommé; Fruit Cup	Roast Turkey, Dressing	Baked Sweets; White Potatoes	Frosted Squash and Peas	Olives, Celery, Cranberry Jelly	Pumpkin Pie, Vanilla Ice Cream
21.	Lima Bean Soup	Baked Haddock	Creamed Potatoes	Broiled Tomatoes, Hollandaise Sauce		Baked Indian Pudding and Ice Cream
22.	Turkey Soup With Rice	Broiled Lamb Chops	Parsley Potatoes	Carrots and Peas		Dutch Apple Cake, Lemon Sauce
23.	Cream of Mushroom Soup	Chicken Fricassee	Mashed Potatoes	Fresh Green Beans	Cranberry Sauce	Orange Pineapple Ice Cream
24.	Beef Bouillon	Broiled Sirloin	Escalloped Potatoes	Creamed Celery		Butterscotch Blancmange With Cream
25.	Tomato-Vegetable Soup	Roast Lamb	Baked Potatoes	Delicate Cabbage		Chocolate Bread Pudding, Hard Sauce
26.	Lamb Soup With Noodles	Roast Chicken, Dressing	Boiled Sweet Potatoes	Frosted Lima Beans	Cranberry Jelly	Maple Walnut Ice Cream
27.	Chicken Soup With Celery	Broiled Lamb Chops	Mashed Potatoes	Buttered Carrots		Cherry Cobbler
28.	Fruit Cup	Fish Chowder		Spinach	Cranberry Relish	Norwegian Prune Pudding With Cream
29.	Barley Broth	Broiled Sirloin	Boiled Potatoes	Sliced Tomatoes		Pineapple Upside-Down Cake, Whipped Cream
30.	Beef Broth With Macaroni	Chicken Pie	Baked Potatoes	Squash	Cranberry Sauce	Peppermint Stick Ice Cream

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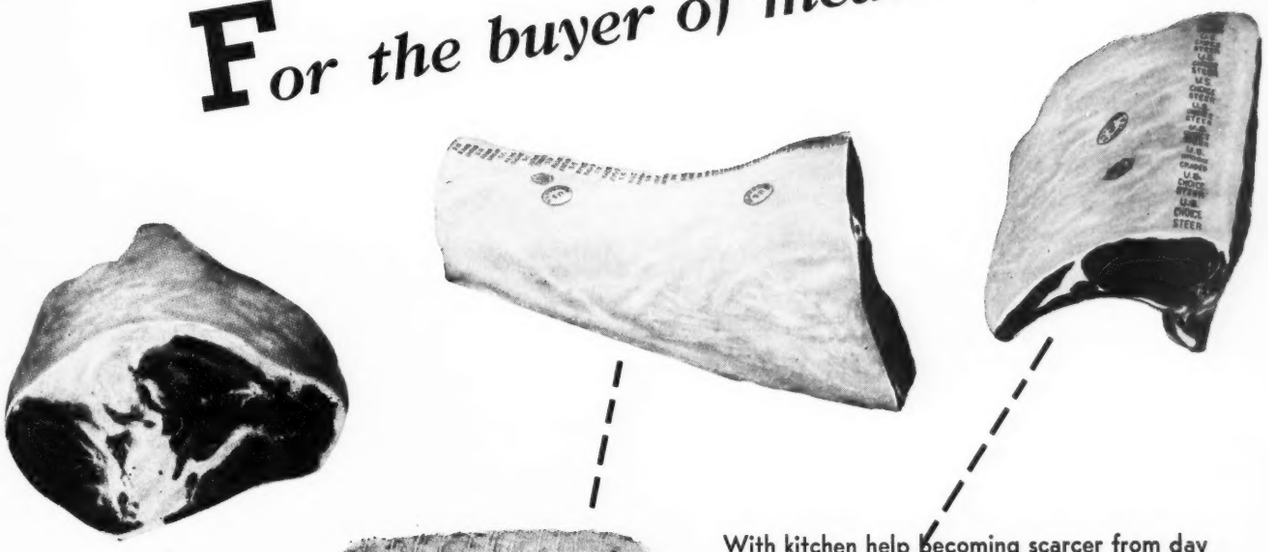
For the buyer of meats!



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Hospital Medicine and Pharmacy

Meet the Medical Staff

LIKE many other hospitals, Salem has found the work of the national certifying bodies a great assistance in elevating standards for the medical staff. Any hospital that is seriously attempting to meet the medical needs of its community is faced with four problems: (1) to raise the standards for medical staff membership to the point that will protect the public against low grade service, (2) to extend the privileges and the educational and professional stimulation of staff membership to as large a percentage of the local medical profession as possible so as to raise the general level of medical practice in the community, (3) to avoid overlooking qualified men who have settled within the area served by the hospital and (4) to set up professional standards that will serve as an inducement for well-qualified young men to settle in the area.

Rely on Specialty Boards

The methods adopted at Salem to solve these problems rely heavily upon the work of the national bodies. Statements of qualifications for membership on the medical staff, which were revised last October, now provide that all surgeons except assistants and juniors shall be fellows of the American College of Surgeons and that all physicians on the medical service except assistants and juniors shall have been certified by the American Board of Internal Medicine or have qualifications that have been accepted by that board. Similarly in obstetrics the standards of the American Board of Obstetrics and Gynecology are made the measuring stick for the chief of the service and the visiting obstetricians.

Although Salem's standards for staff surgeons are highly acceptable in most particulars, the provision that a young surgeon may qualify merely by having a year's "straight" surgical internship is a holdover from an era that is unquestionably passing. The straight surgical internship does not have the approval of the American College of Surgeons or of the Commission on Graduate Medical Education. Provision for it in the by-laws of the Salem medical staff is undoubtedly based on the needs of the transition period. It is a minimum, not an ideal, standard and applies only to junior surgeons.

The by-laws provisions regarding the younger doctors on the medical and obstetric staffs require that assistant physicians must have signified in writing to the chief that they intend to meet the qualifications as set up for visiting physicians (*i.e.* certification by American Board of Internal Medicine or equivalent qualifications). Junior physicians must have signified in writing to the chief their intentions to continue their medical training by postgraduate education, in regard to which the chief may offer such suggestions as he believes may be for the benefit of the service.

Steps on Promotion Ladder

The ladder of progression for a doctor in Salem Hospital is, first, out-patient physician in the service of his choice; then, junior, assistant, associate visiting (in surgery only), and visiting, terminating, if he has the requisite qualifications of leadership and professional ability, as chief of his service.

The meticulous restrictions on service of the medical staff apply, to date, only to their work for ward patients. It seems logical to suppose that, when the value of such control becomes clear to the doctors and the trustees, it will be extended to the service of private patients.

The actual mechanics of appointment to the medical staff involves careful checking on each individual. Prospective members are discussed by the staff council (the executive committee of the medical staff). The formal application is studied, the hospital administrator writes to other hospitals in which the applicant has served his internship or residency and these reports are analyzed carefully. If an applicant has served in any of the Boston hospitals or has studied in one of the Boston medical schools, the application is referred to some member of the Salem medical staff who has contacts with that hospital or medical school. He obtains firsthand information and reports back to the staff council.

Routine of Staff Appointments

After a frank discussion, the staff council makes recommendations to the medical staff as a whole. The by-laws require that no action can be taken until the following meeting, when a majority vote of the entire staff is necessary to recommend a man to the trustees.

The professional service committee of the trustees reviews all recommendations from the medical staff, discusses them if it so desires with the staff council and makes its recommendations to the full board for formal action. If the board approves, the clerk of the board then writes the applicant informing him of his election and calling his attention to the requirements of the medical staff by-laws, which require him to sign his name as a subscriber to the by-laws before he may become a member of the staff in good standing. This signature, of course, includes a pledge against fee-splitting and a promise to abide by the rules of the hospital.

Each doctor is appointed to the staff for a period of one year, effective February 1.

Promotions in the staff are made on the basis of merit. There is no courtesy staff but former interns of Salem Hospital well qualified by further training and other properly qualified physicians are appointed to the out-patient department staff.

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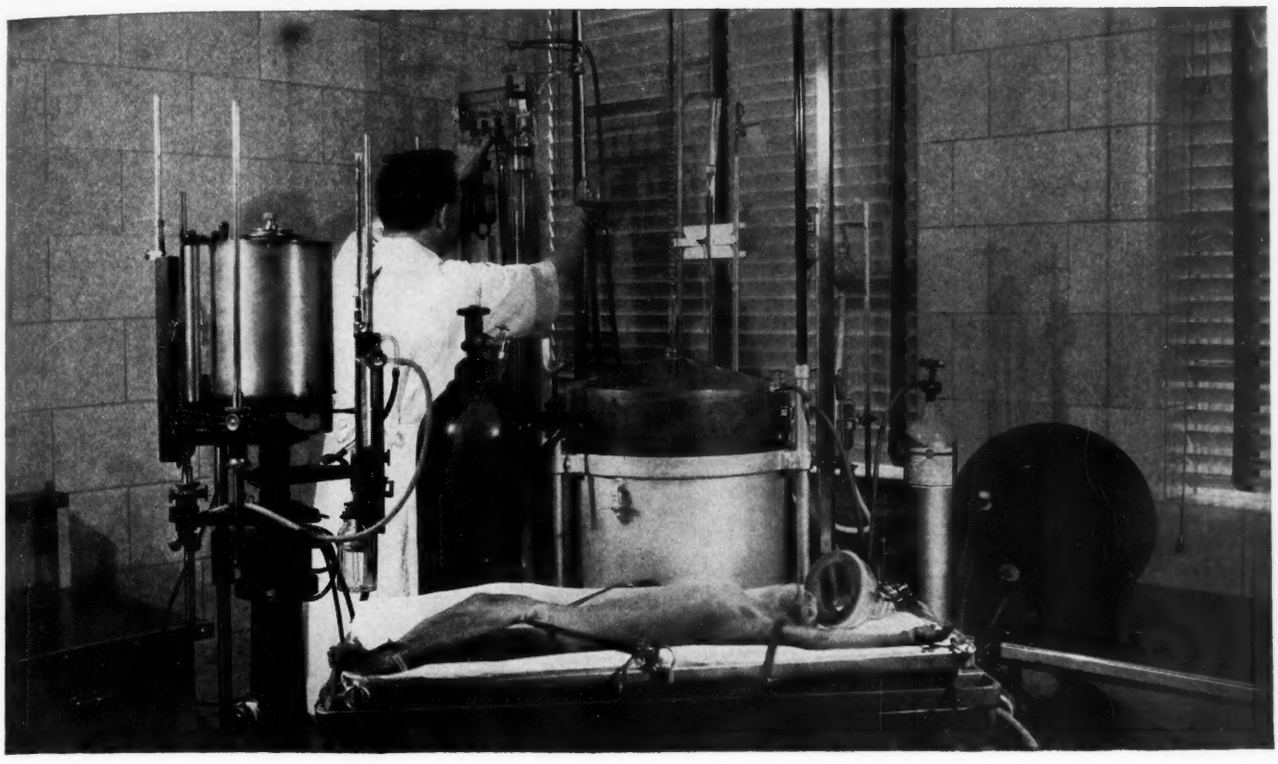

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Because of the need for developing surgeons, since the hospital has quite a gap between the older men and the very young men, the chief of the surgical service has the privilege, by formal vote of the staff, of using men with a surgical background for temporary assignments on service as he deems fit without definite appointment. Thus he is enabled to study the ability of these men without committing the hospital in any way. This has proved helpful. This is the only exception to the general rule that only members of the regularly appointed staff may care for patients within the hospital.

Physicians who have given years of service in active ward work may be appointed to the advisory staff. This appointment permits them to continue to bring private patients to the hospital but relieves them of the responsibility of caring for ward patients. The consulting staff consists of members who have no hospital services but may be called upon for advice in their respective fields. They are leading specialists and members of medical faculties of the area around the city of Boston.

Appointments to the out-patient staff serve as a training period for men who are preparing to advance and as a hospital appointment for qualified general practitioners.

The scientific and professional meetings of the medical staff are discussed in the article on graduate medical education. In addition to this educational work, the medical staff as a group has certain administrative responsibilities. It holds a business meeting once a month in the evening to deal with such problems. Several times a year, distinguished guest speakers are brought in for these meetings.

As an example of the administrative responsibilities of the medical staff, the following list of problems considered at these meetings during 1941 is illustrative.

1. Establishment of routine standards and procedures in various departments, *e.g.* treatment of burns and compilation of the hospital formulary.
2. Appointment of a medical record committee to advise with the administration.
3. Formulation of the medical staff setup in the defense program and advising with the administration on the handling and classification of casualties.
4. Establishment of standards for admission to the medical staff and recommendations regarding appointments.

The numerical makeup of the medical staff is as follows: advisory staff, 3; consulting staff, 10; surgical service, 10; medical service, 9; pediatric service, 1; obstetric service, 4; special services, 16; out-patient department, 13. Of the total of 66 physicians, 22 have been certified by their respective specialty boards. The special services include: urology, orthopedics, oto-rhino-laryngology, ophthalmology, roentgenology, neurology, dentistry, radium therapy, pathology and anesthesia. At the present time, two members of the medical staff are in military service and several others are in base hospital units subject to call.

Sixty-six of the 80 physicians in active practice in Salem and Marblehead are on the Salem Hospital staff.

From a review of the data in the current American Medical Directory, it is apparent that the high standards set up for admission to the Salem medical staff have not prevented the competent active practicing physicians of the area from obtaining the educational and professional benefits attendant upon a medical staff appointment.

When signing the by-laws of the medical staff, the physician agrees to keep accurate and complete clinical records of all his patients, to see that they are written promptly and are fully completed on the patients' discharge and to attend staff meetings and conferences regularly.

Of the 5202 patients admitted during the year, 3140 were sent in by members of the medical staff (most of the ward patients were admitted through the out-patient department). It is interesting to note in this connection that of these 3140 patients, 1548, or nearly one half, were sent in by seven physicians. Five of these doctors are surgeons, one is a urologist and one, an obstetrician.

In 1940 there was a total of 230 deaths in the hospital and 5350 patients treated, giving a crude death rate of 4.3 per cent. Of the total deaths, however, 87 occurred within forty-eight hours, 46 were medico-legal cases and 22 were stillbirths. If these three groups are excluded, the average death rate drops to 1.4 per cent, certainly an admirable record for a hospital like Salem that does not exclude moribund cases.

How the Tumor Clinic Operates

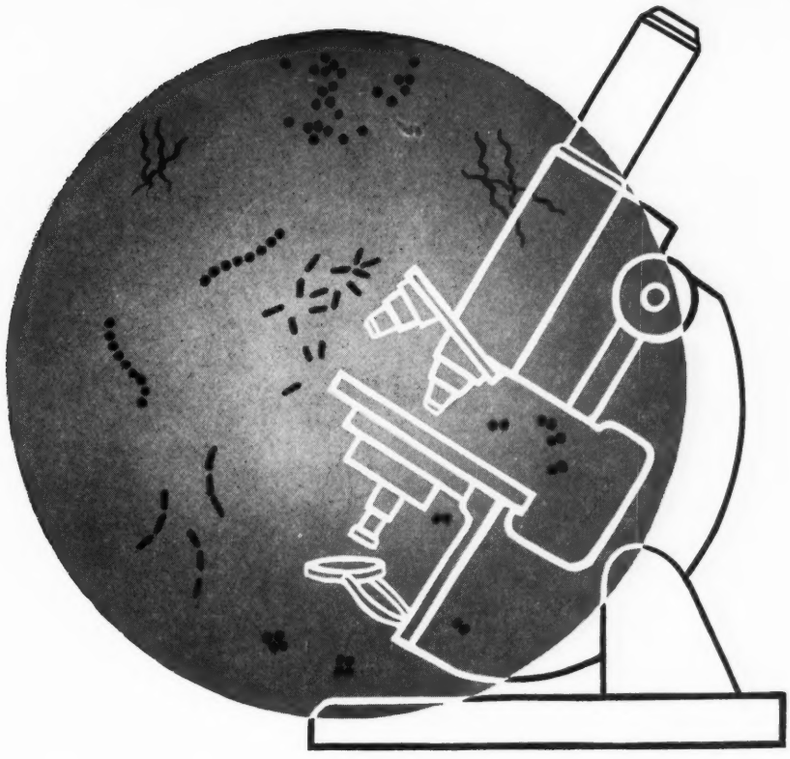
THE Salem Tumor Clinic is administered by a committee of physicians appointed by the Salem medical staff and is financed by the state under its cancer control program, probably the outstanding state program in this field in the United States.

The clinic is held weekly and free or low cost consultation services are provided for any patient. Unless the referring physician specifies that he wishes the patient to remain under the supervision of the clinic, each patient is referred back to the physician who sent him on completion of the diagnosis and the latter decides whether he wishes the assistance of the clinic's social worker in making arrangements for treatment.

Each patient is seen by three or more doctors and the diagnosis is worked out in consultation among them. An educational program for doctors is carried on by inviting distinguished specialists to conduct teaching clinics. Public education regarding cancer is promoted by a series of articles in the local newspaper sponsored by the Salem Cancer Control Committee, composed of lay people.

All patients diagnosed as cancerous are followed up intensively by the social worker for the rest of their lives.

The tumor committee consists of members of the medical staff, including the hospital's radiologist and pathologist.



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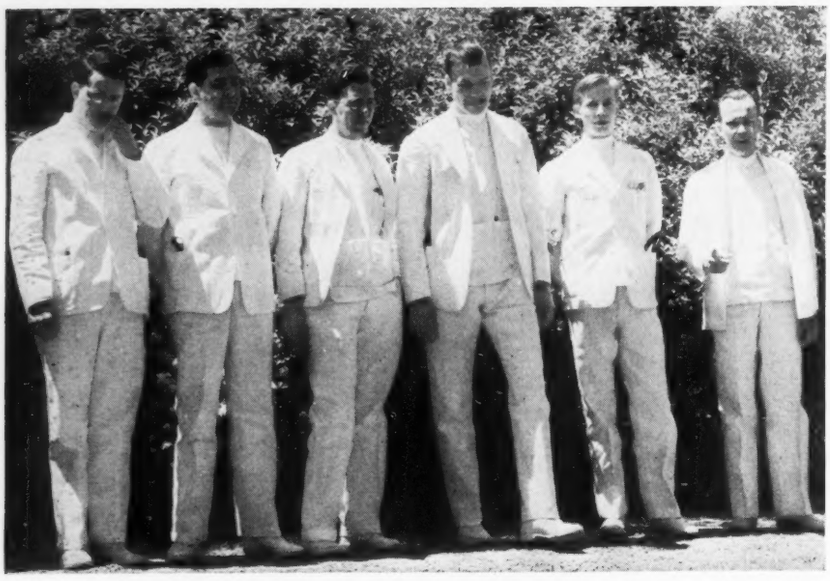


Salem's six medical interns on a dazzling day in summer.

SEVERAL features of Salem's program for training interns deserve special commendation. First is the fact that there is close correlation between clinical work and laboratory activity. The intern does not spend time doing routine laboratory tests on patients known to him only as numbers. When he performs a test, it is usually for one of his own patients whom he has recently examined and can clearly visualize. Laboratory work, therefore, is given an immediate pragmatic value in his eyes.

A second valuable aspect is the correlation between in-patient and out-patient work. While the patient load does not always make it possible for him to be serving in the corresponding section of both the in-patient and out-patient services, this is done to a considerable extent. This promotes continuity in approach and demonstrates to the intern the early aspects of disease as well as the problems and importance of follow-up work. If he goes into general practice, the experience in the out-patient department will be invaluable.

A third feature worthy of special note is that the chief or acting chief of the medical service is to designate an attending or assistant physician of the medical service as "instructor-physician." This man carries on bedside teaching of the medical intern with cases selected by the attending physician and by this and other methods instructs him in physical diagnosis and other subjects related to the care of the medical patient. Such instruction periods are held twice a week. Also, the physicians engaged in the interpretation of electrocardiograms are specifically directed to instruct all interns in this subject.

All interns are expected to take an active part in the weekly medical staff conferences, particularly the ones on the fourth Friday of each month when the interns discuss and summarize their work for the month.

Although the interns' time is very full, it would probably be possible to organize a journal club for the interns and for younger members of the staff. Such an activity helps to establish the habit of constant reading of current professional literature, an important need for continued professional growth. It is often desirable to have one of the older physicians as mentor and guide for such a group.

Interns receive $25 per month, uniforms, room, board and laundry. Appointments are made in November and the hospital has had no difficulty in obtaining a large number of well-qualified applicants for the available positions.

Program for Residents

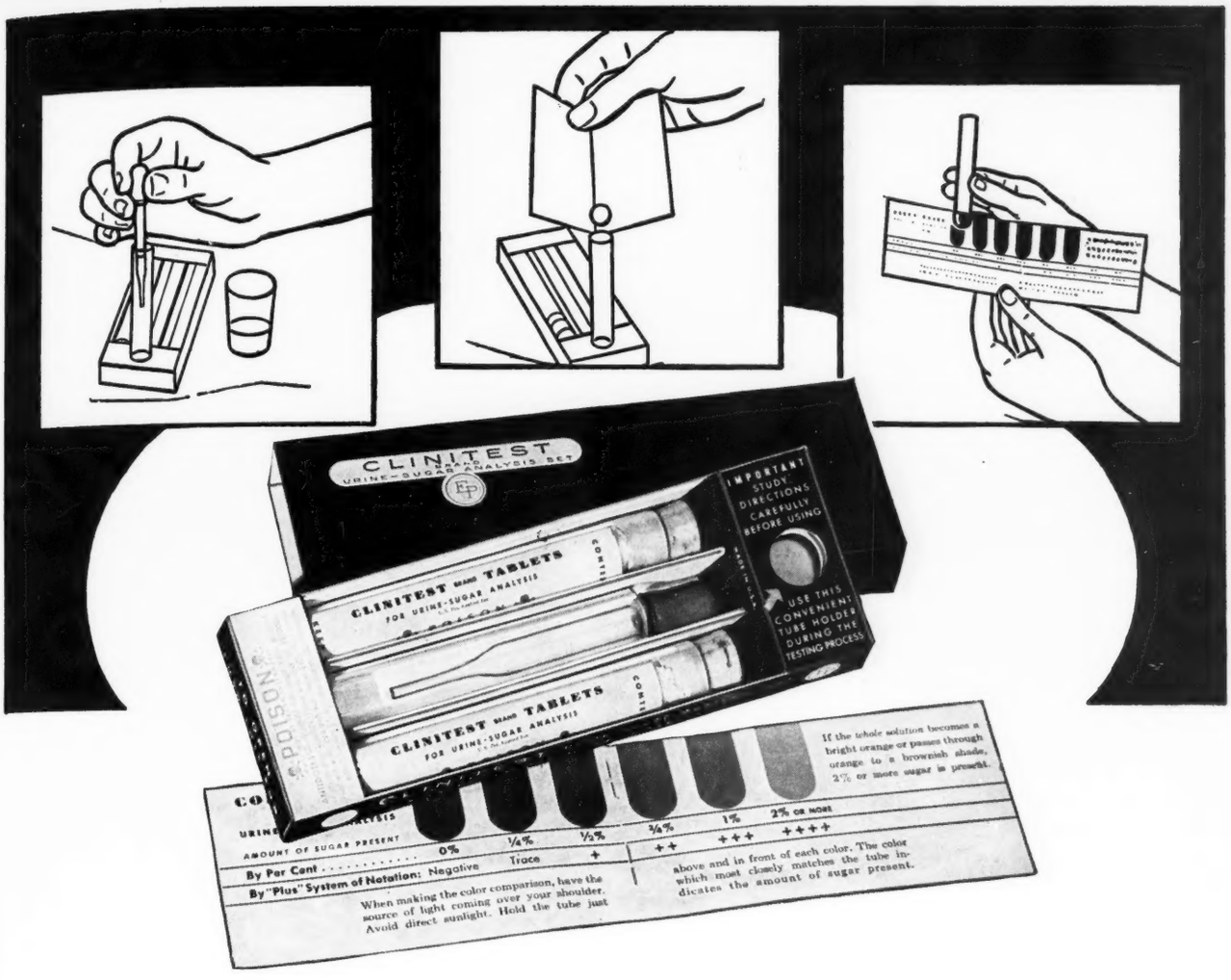
The residency program at Salem Hospital has not yet been developed to its fullest extent in view of the hospital's high grade medical staff and fine teaching opportunities. Just last summer, however, an important first step in this direction was taken with the inauguration of an affiliation with Boston University School of Medicine. This school has started a four year plan for training residents in internal medicine who have had a minimum of twelve months' internship and for qualifying them for certification by the American Board of Internal Medicine. Under the plan, one resident will come to Salem Hospital each six months for training in pathology. This arrangement became effective January 1.

In addition to his work in the clinical laboratory, the resident is expected to spend his spare time on the medical wards of the hospital in a supervisory capacity so that he may keep his hand in clinical medicine and may begin to develop a teaching attitude.

With the anesthetist and the radiologist both certified by their respective specialty boards and with the large volume of work done in both these fields, it should be possible to arrange for residencies in these specialties also. Steps in this direction are being taken at the present time.

Refresher Courses for Physicians

The third major aspect of graduate medical education at Salem Hospital concerns the day by day "refresher" work for physicians in active practice. As in any good hospital, a great deal of this is carried on informally in conferences with the radiologist,



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pathologist, anesthesiologist and the heads or other consultants from the various special departments.

Another informal stimulus to educational progress is the Mack Memorial Library, beautifully housed in one of the new sections of the hospital. Through an endowment, a sum of $150 annually is available for the purchase of rare medical books for this library. One of the younger doctors is appointed librarian to review requests for books and to make recommendations for their purchase. Current periodicals are purchased from hospital funds. The furniture was provided by the medical staff. A trained librarian living in the hospital locality serves part time.

The library follows the classification of the Boston Medical Library. It contains at present a total of 600 active volumes of carefully selected, current medical literature and receives currently 22 standard medical periodicals. During 1941 a total of 200 books and periodicals was circulated, or an average of 45 for each doctor using the library. This does not include, of course, the many doctors who dropped in to read periodicals or to consult books without withdrawing them.

The more formal aspect of education for the practicing physician is carried on in the grand rounds on Tuesday morning and in the Friday scientific conferences. The Tuesday grand rounds on the medical service, for example, are made by the entire service and are conducted by the chief of service and the instructor-physician. Immediately following these rounds, detailed study and discussion of every case presenting a difficult problem take place. Likewise, a conference follows each daily surgical round, always made at 8:30 a.m. This is teaching at its best.

The Friday scientific conferences rotate through a fixed schedule as follows: first Friday, routine conference; second Friday, clinic-pathologic conference planned by the pathologist and the radiologist; third Friday, routine conference; fourth Friday, monthly conference at which interns discuss and summarize their work for the month; fifth Friday (when there is one), tumor clinic. Any physician in the community is welcome to attend and several nonmembers of the staff come frequently.

A clinico-pathologic conference on a second Friday was observed by one of the editors. It was devoted to a discussion of a patient admitted with pneumonia as a chief complaint. The patient had been admitted on July 8, 1940, and had been cared for and died nearly a year prior to the time of the conference. Thus the members of the medical staff had had time to forget the details of the case but the interns who had taken care of the patient during the first few weeks of their service were still on duty.

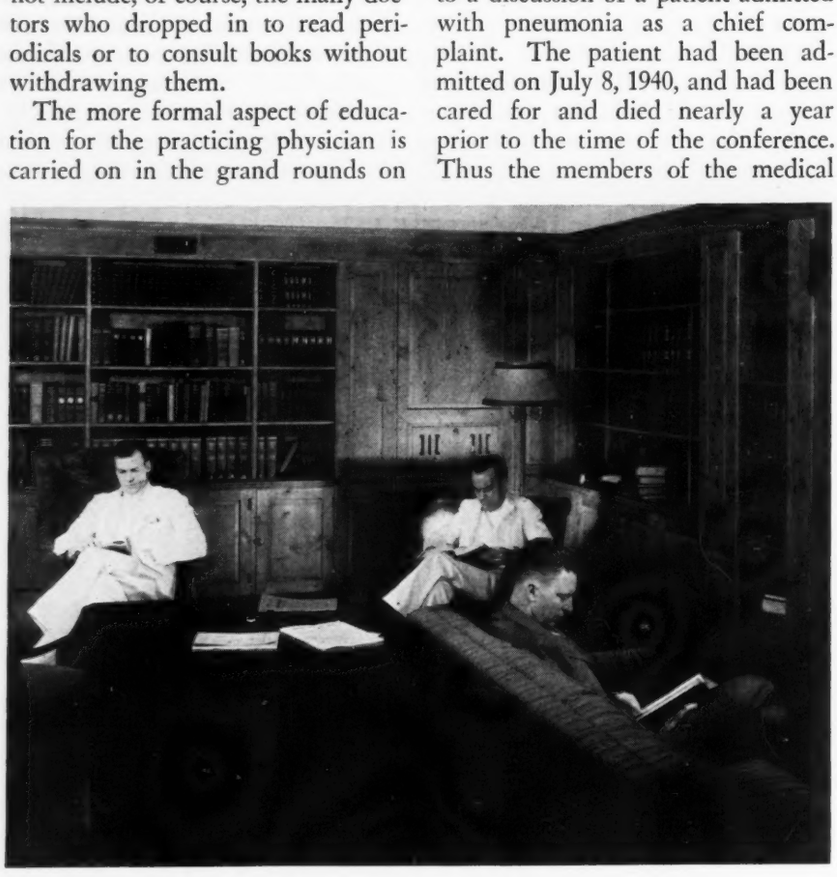
The radiologist, who presided, gave each person attending the conference a mimeographed summary of the patient's history with all of the information that was available to the medical staff and the interns during the time the patient was alive. On the basis of this information, the diagnosis and treatment of the patient were discussed fully by one of the physicians selected for the purpose, one who had had no responsibility for the patient. Other physicians were invited to suggest the diagnoses that they suspected and the reasons and to suggest diagnostic or therapeutic measures that should be undertaken in the light of the facts as they were available to the physicians who actually treated the patient.

After extensive discussion and friendly argument about the various possibilities, the chairman called for the necropsy findings. These were given by the pathologist with slides.

There was enough difference between the findings and the suggestions of the various discussants to carry on the discussion for some time. It was interesting to note the frankness with which the chief discussant admitted that he, like the original physician in charge of the patient, was in error in overlooking certain possibilities. The whole atmosphere of the conference was one of frankness and honesty.

While the conferences are obviously of great importance in the teaching of interns, they are no less important in keeping the active medical staff and visiting physicians at a high level of performance. They have improved in quality since the hospital has been able to employ a full-time radiologist and pathologist.

The educational atmosphere that pervades the hospital cannot help but be reflected in a higher standard of service to patients. Salem Hospital effectively demonstrates that a hospital without direct connections with a medical school can, nevertheless, be a "teaching hospital" in the true sense of the word.



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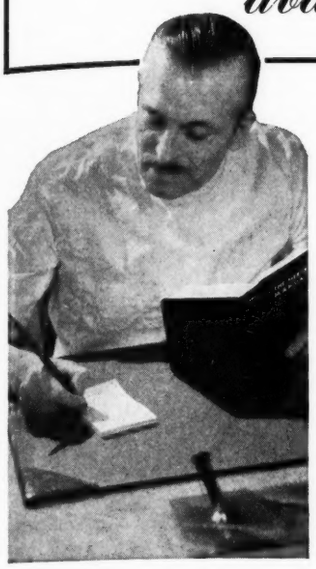

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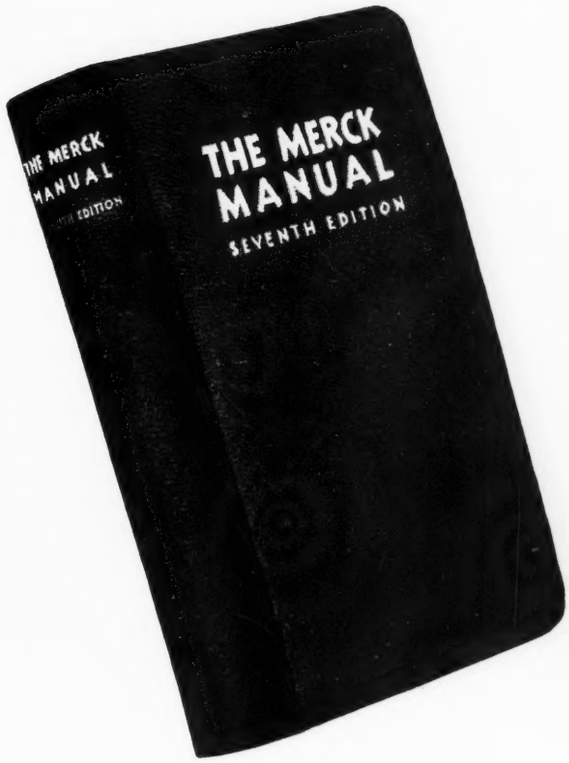

To the Physician

its 1462 pages, including a comprehensive index, offer authoritative discussions of the etiology, diagnosis, and therapy of 256 pathologic conditions (many of daily experience), with almost 2,000 actual prescriptions. Of outstanding value and importance at this time are the chapters on subjects of special interest to public health, such as Syphilis, Malaria, Amebiasis, Typhus Fever, Yellow Fever, Dengue, Pellagra, Tularemia, Brucellosis and others, each written in collaboration with an expert.

To the Pharmacist

there will appeal the Materia Medica section, containing the synonyms, physical characteristics, uses, average doses, and incompatibles of important remedies; the chapter on Poisoning and its Treatment; prescriptions with apothecaries' and metric systems equivalents; dose table of newer, older, and rarer medicaments; percentage solution tables; important changes in Latin and English nomenclature of *The United States Pharmacopoeia* and *The National Formulary;* and miscellaneous subjects of reciprocal importance to the physician and pharmacist.

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Pharmacy Comes Last

THE pharmacy at Salem Hospital is, as yet, the forgotten department. While a full-time registered pharmacist is employed and accurate compounding and dispensing are assured, the pharmacy has not yet achieved the professional standing, administrative significance or teaching position that has been attained in some hospitals.

Recently, a new pharmacist was employed and it may well be that improvements will be made in a short time.

The department is housed in two adjoining rooms in the basement. The space is small and fairly crowded. Some of the equipment is more or less makeshift in character. In a brief visit to the department, no significant innovations or improvements in pharmacy administration were discovered.

The medical staff is now engaged in preparing a hospital formulary which will list all preparations that are furnished without extra charge to in-patients and out-patients.

"An earnest effort has been made," the preface to the formulary states, "to offer a sufficiently inclusive and diversified list to meet all reasonable demands." Other items, except prescriptions compounded of common U.S.P. drugs, will upon request be procured by the pharmacy and charged to the patient.

Efficiency and economy required that the hospital select representative preparations whenever numerous drugs with essentially similar composition or action are available. Items not listed but desired for clinical investigation may be stocked on special request from a clinical department head. Arrangements for defraying the cost of such items are made by the department interested in the study.

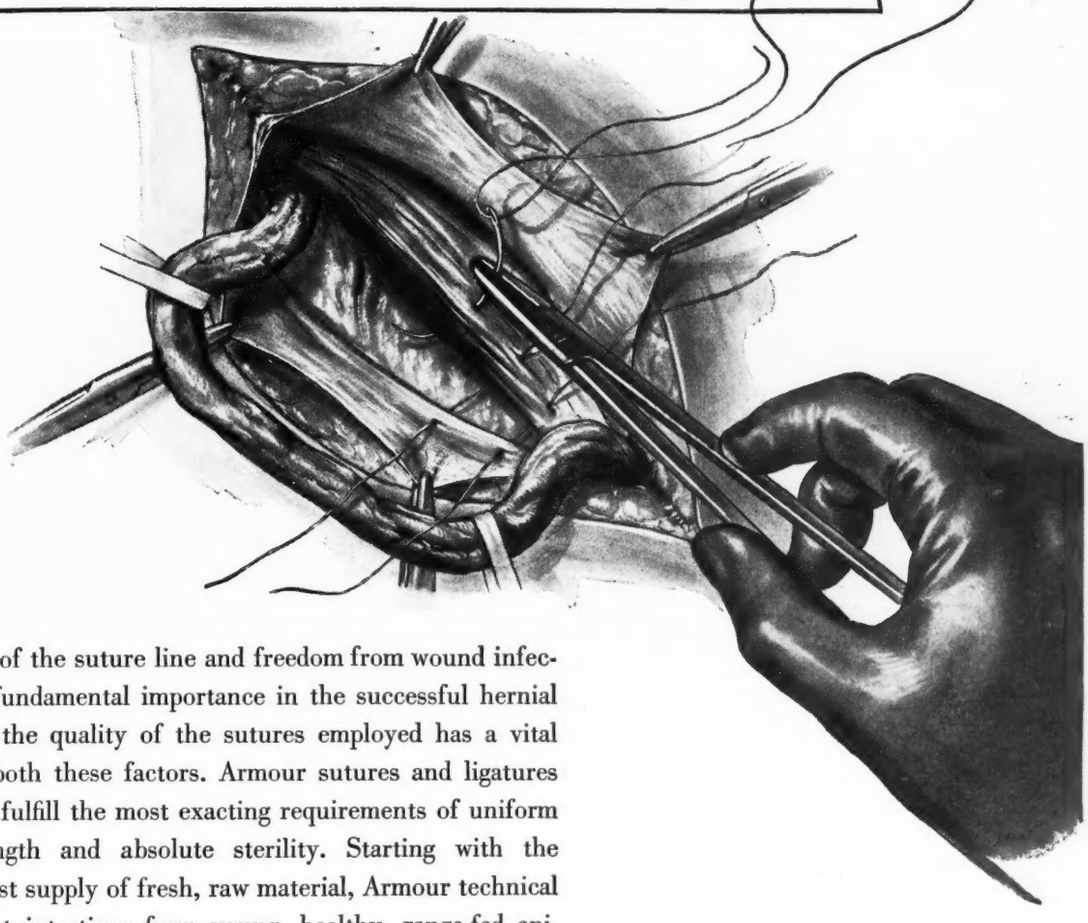
New items may be added to the formulary on request. The request is submitted in writing to the committee on pharmacy and must offer a full description of the item, citations as to its special advantages, reasons why it is desired and a statement as to whether it may replace any item already listed. "Only preparations of established therapeutic value should be offered for inclusion," the formulary states. Articles of secret composition are not admitted. The addition or elimination of formulary items must have the approval of the medical staff council.

English and chemical names are given first in the formulary, with official synonyms in parentheses and with proprietary names in quotation marks.

A limited supply of the most commonly used narcotics is kept on hand in the drug cabinets on each of the floors. Any member of the hospital professional staff may order the use of such narcotics for patients in the hospital. Narcotic prescriptions for out-patients must be dated and bear the name and address of the patient and physician and the latter's registry number. The number of doses and the quantity of each dose, or the total amount of the narcotic desired, must be specified.

Expenses for pharmacy, including nearly $14,000 for drugs and medicines, are handled in two ways. The drugs that are charged to patients are charged to the pharmacy and the income is credited to the pharmacy. All other drugs not charged to patients are charged to the proper nursing unit and included in the item of nursing supplies, as there is no income from this group except for the room and board. In other words, the per diem charge for room and board includes ordinary drugs. The delivery room charge is set up in a flat rate for all obstetrical extras and is designed to include pituitrin, ergot, sedatives and all other drugs incident to delivery.

Herniorrhaphy



FIRMNESS of the suture line and freedom from wound infection are of fundamental importance in the successful hernial repair. And the quality of the sutures employed has a vital bearing on both these factors. Armour sutures and ligatures are made to fulfill the most exacting requirements of uniform tensile strength and absolute sterility. Starting with the world's largest supply of fresh, raw material, Armour technical experts select intestines from young, healthy, range-fed animals, for only these make the best sutures. The cleaning and preparation of this raw material alone requires sixteen distinct hand and machine operations and five detailed inspections. And every step from here on to the completion of the finished suture is carried out with the same painstaking attention to detail, the same careful check and double check. Finally, ARMOUR SUTURES and ligatures are sterilized and sealed by a unique patented process which insures absolute freedom from contamination. For these reasons the use of ARMOUR sutures and ligatures is an added safeguard, not only in the hernia operation but in all surgical procedures. Good surgery demands the best in sutures and ligatures—specify ARMOUR.

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★ *The hinged cylinder opens the entire length of the bed, making it easy to install patient and keep cylinder clean. Quiet and vibrationless in operation. "Engineered" construction, motor and bellows are out of sight, yet easily accessible. Hand lever for emergency operation.*

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Unmistakable Results

★ *Careful selection of only* highest titred *donors insures the* unfailing accuracy *of American standardized Human Blood Serum, and results in an exceptionally high titre, clear and clean serum, with no false agglutination reactions.* SET: *2cc each Type A, Type B (50-60 tests) $4.00.* VIAL: *2cc Type O, Moss IV, for confirming (50-60 tests) $2.00. 5cc sizes also available.*

AMERICAN HOSPITAL SUPPLY CORP.
Chicago New York

News in Review

Hospital Care Under Social Security for 35,000,000 Proposed by President

A proposal that might, if carried through on present plans, double the amount of income received by hospitals from paying patients was made by President Roosevelt in his budget message delivered to Congress on January 7. The President said:

"I recommend an increase in the coverage of old age and survivors' insurance; addition of permanent and temporary disability payments; hospitalization payments beyond the present benefit programs, and liberalization and expansion of unemployment compensation in a uniform national system. I suggest that collection of additional contributions be started as soon as possible, to be followed one year later by the operation of the new benefit plans."

The specific program that had been placed before the President by the Social Security Board and to which he referred in such general terms is for an increase of 1 per cent in the employers' contribution and 1 per cent in the employes' contribution. The funds would be used to pay for wage loss during disability and for a modest hospitalization benefit in cash to the insured workers and their dependents.

If the tax were paid on an average income of only $1000, and it is probable that the average would be considerably higher than that, a total fund of $350,000,000 per year would be available to meet administrative costs and to pay hospitals for care rendered to insured workers and their dependents. If administrative costs were reasonable, a payment of $4.50 per day could probably be made from such a fund. Actually, the Social Security Board now is proposing to pay only $3 per day.

The sum of $350,000,000 probably equals or exceeds the present payments by patients. In 1935, 43 per cent of the $707,000,000 received by hospitals came from patients, or a total of a little more than $300,000,000. Doubtless, this amount has increased substantially in the last five years.

The effect of the President's proposal on Blue Cross plans was discussed in Washington with officials of the Social Security Board by representatives of the Hospital Service Plan Commission on January 14.

A subcommittee consisting of E. A. van Steenwyk, Dr. Basil C. MacLean, Dr. S. S. Goldwater, Dr. R. H. Bishop and John R. Mannix has been appointed by the commission to confer with the staff of the board before a bill is drafted for submission to Congress. The chairman of the board indicated that at the present time the board did not wish to defer the drafting of such a bill.

Such a program might stimulate the growth of Blue Cross plans, which could supplement the small governmental payments and could provide additional benefits, or it might put them out of business entirely, according to predictions of various hospital leaders.

New York Hospital Care Group Announces New Benefits to Subscribers

New benefits to subscribers to the Associated Hospital Service of New York were announced last month. The benefits represent an annual increase of $1,000,000 in payments to hospitals.

The principal change is to increase from 25 to 50 per cent the discount allowance on hospitals' regular charges for semiprivate service in cases of prolonged illness that last beyond the twenty-one day period for which full costs are paid. The 50 per cent discount will now be paid for 90 days from the twenty-second day of hospitalization. Formerly only 25 per cent was paid for only 60 days.

The credit of $5 a day for ten days for maternity service has been increased to $6 per day.

Childbirth cases involving caesarian section, ectopic pregnancies or pregnancies that are accidentally terminated without childbirth are given the full twenty-one days instead of only ten days.

The trustees have set aside $1,500,000 to meet a war or epidemic emergency in addition to the surplus of $3,672,000. More than 6000 subscribers now in military service are being continued on the rolls, without charge in the case of single men or at reduced rates for men with dependents.

GET IN THE SCRAP!
America's war industries need Metals, Papers, Old Rags, Rubber. Get it back in war production.

Why Do So Many Nurses Recommend Colgate's Floating Soap?

Here's the Answer!
Some Facts it Will Pay Every Hospital Superintendent to Read!

NURSES say Colgate's Floating Soap is a favorite with many of their patients! "Such rich, creamy lather!" "Makes me feel so clean and refreshed!" These are just a few of the remarks they hear almost every day!

Superintendents like to please patients, too. They know the value of little things. And for them, Colgate's Floating Soap has additional advantages. *First*, there is no finer floating soap on the market! It's pure, white, gentle! *Second*, it's priced to meet the strictest hospital budget! Ask your C.P.P. man for prices. Or, write us direct!

FOR HIGHEST QUALITY MILLED TOILET SOAPS TRY PALMOLIVE AND CASHMERE BOUQUET

PALMOLIVE—the world's favorite toilet soap—is made with rich Olive and Palm Oils...gives an abundance of rich, fragrant, gently cleansing lather.

CASHMERE BOUQUET is considered a real luxury soap. Yet it is economical. Women patients especially love this fragrant, hard-milled, white soap.

COLGATE-PALMOLIVE-PEET CO.
INDUSTRIAL DEPARTMENT, JERSEY CITY, N. J.

Three N. Y. Hospitals Open New Units; Washington Plans Expansion Program

Opening of new hospitals and additions in New York City came frequently last month. Roosevelt Hospital opened on January 8 its new $1,000,000 six story building for private and semiprivate patients.

One hundred seventy-five additional beds were provided by the new Archbishop Spellman Pavilion of St. Vincent's Hospital, opened on January 5. The hospital is launching a $750,000 campaign to pay for part of the building and equipment for its enlargement.

Beekman Hospital announced plans to extend its emergency facilities to serve lower Manhattan and will add first-aid dressing rooms, operating room, ward facilities, nurses' quarters, garage space and mobile emergency units. A campaign was launched for $500,000 to meet the costs for these expansions and other needs of the institution.

In Washington, D. C., a master hospital plan to provide 2500 additional beds at a cost of $21,170,000 was submitted to the Health Security Administration. The plan calls for replacement of existing buildings of Providence, Georgetown, George Washington and Garfield hospitals and the expansion of Gallinger, Emergency, Columbia, Children's, Casualty and Sibley hospitals. In addition, a new 70 bed hospital adjoining the Hebrew Home for the Aged is proposed.

The Aloe BEDSIDE Dressing Carriage

takes the dressing drum to the bedside!

Hospital administrators helped us design this new dressing carriage, now acclaimed as the most convenient ever offered. For the first time, it brings all needed materials, including the dressing drum, right to the bedside. The time saving and added effectiveness makes it an investment of very real worth.

Medicine and solution bottles, needle jar, sponge bowl, dressing jars and waste receptacle are also carried ready for use. The entire carriage is moved almost without effort, with gratifying absence of noise. Rubber-tired wheels, plus an ingenious use of spring holders for the utensils, eliminate all rattle.

Full description of the Bedside Dressing Carriage and prices, with or without the utensils shown, are given in our complete descriptive circular. Write for a copy today.

SHARP & SMITH HOSPITAL DIVISION

A. S. ALOE COMPANY

1831 Olive Street St. Louis, Mo.

Aloe

New York City Cuts Length of Internship Down to One Year

To speed the production of doctors, the New York City Department of Hospitals last month cut all its internships from two years to one year and discontinued the practice of having interns "ride the ambulances." All interns and residents who are eligible for medical service have been advised to apply for commissions in the Army and Navy.

There are 858 interns in the city hospitals. Interns who have completed one year's service and are not eligible for commissions, because of physical defect or other reasons, may be appointed as residents.

Dr. Willard C. Rappleye, commissioner of hospitals, announced before the attack on Pearl Harbor that he wished to resign his position and return to Columbia University. The New York Academy of Medicine has joined Mayor La Guardia in asking him to continue.

Emergency Medical Sets Distributed

Directors of the second civilian defense region, comprising New York, New Jersey and Delaware, recently received eight emergency medical field sets, each consisting of two portable cases completely equipped with supplies from the Medical and Surgical Relief Committee of America. According to Mrs. Rogers Balcom, executive chairman, plans are now being made for a nationwide campaign to provide quantities of the sets to officials in each of the nine civilian defense regions set up by the Office of Civilian Defense.

Defense Stamps for Employes

Every employe of the Methodist Hospital of Dallas, Tex., received as a Christmas present $1 worth of defense stamps for each year that he had been in the hospital's employ. A booth for the sale of defense stamps and bonds has been set up in the hospital and all employes are asked to purchase as many as they can. As a further war effort, the hospital recently conducted a poster contest among student nurses on the subject, "Economize for Defense." An essay contest was also conducted on the same subject.

Birth OF A Baby

Demonstrating how Curity products are designed to meet specific hospital needs

Every department in the hospital has a two-fold responsibility in these unusual times—economy in the use of supplies, and efficient use of skilled personnel. Then, too, there must be no lessening of the standards for patient care.

These Curity products used in the Maternity-Nursery department suggest the value of economical, time-saving Ready-Made Dressings. Similar groups of Curity products are particularly well adapted to the needs of other departments—Surgery, Orthopedic, Surgical Wards, Out-Patient.

Wherever used, Curity Ready-Made Dressings help the hospital solve two pressing problems—economy in the use of supplies, more efficient use of skilled personnel.

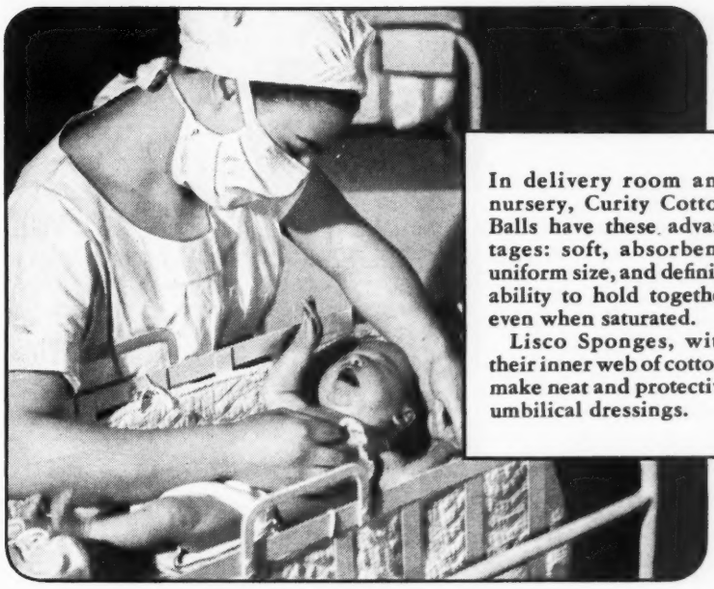
Curity

LEWIS MANUFACTURING CO · BAUER & BLACK

2500 South Dearborn Street, Chicago

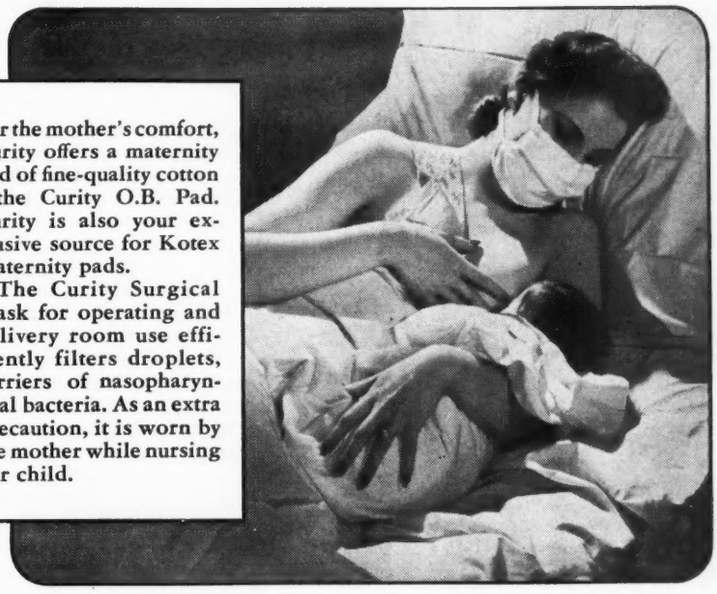
Divisions of The Kendall Company

RESEARCH TO IMPROVE TECHNIC, REDUCE COSTS



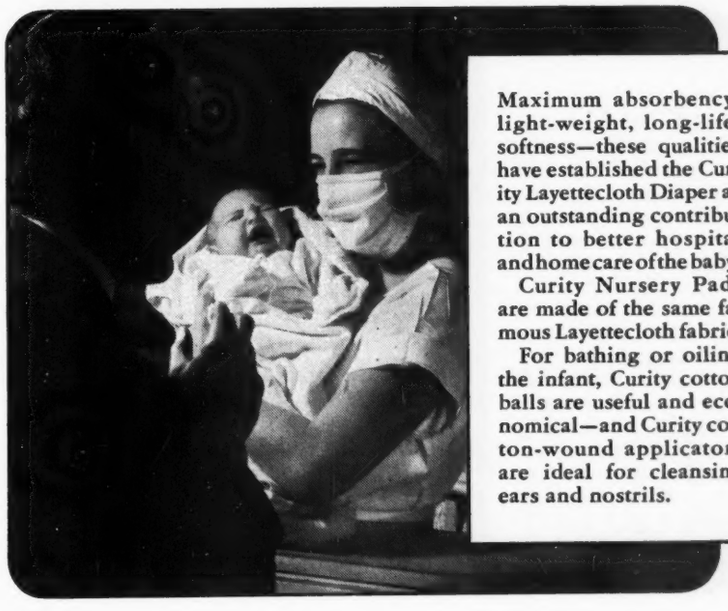
In delivery room and nursery, Curity Cotton Balls have these advantages: soft, absorbent, uniform size, and definite ability to hold together even when saturated.

Lisco Sponges, with their inner web of cotton, make neat and protective umbilical dressings.



For the mother's comfort, Curity offers a maternity pad of fine-quality cotton—the Curity O.B. Pad. Curity is also your exclusive source for Kotex Maternity pads.

The Curity Surgical Mask for operating and delivery room use efficiently filters droplets, carriers of nasopharyngeal bacteria. As an extra precaution, it is worn by the mother while nursing her child.



Maximum absorbency, light-weight, long-life, softness—these qualities have established the Curity Layettecloth Diaper as an outstanding contribution to better hospital and home care of the baby.

Curity Nursery Pads are made of the same famous Layettecloth fabric.

For bathing or oiling the infant, Curity cotton balls are useful and economical—and Curity cotton-wound applicators are ideal for cleansing ears and nostrils.

Preference Rating Procedure Changes; Personnel Shifts, Announced by O.P.M.

RUTH HILL ZIMMERMAN

Washington Representative, The MODERN HOSPITAL

On January 21, O.P.M. was abolished and its personnel and activities transferred to the War Production Board headed by Donald M. Nelson. The health supplies section, which has been under the division of purchases of O.P.M. headed by Douglas MacKeachie, presumably will be continued under the W.P.B.

In the health supplies branch, C. A. Willard has been appointed assistant to William Bristol Jr., chief, and has been placed in direct charge of the health supplies rating plan. Mr. Willard was formerly president of the Fruit Treating Corporation of Orlando, Fla., and, prior to that, treasurer and assistant to the president of the Bay Co., Bridgeport, Conn., makers of surgical dressings.

Milton H. Luce, previously in charge of the health supplies rating plan, has been transferred to the airplane production scheduling unit.

Membership of the technical council of the health supplies branch was announced late in December.

The council has been holding weekly meetings at which it has considered the health supply requirements of the Army, Navy and civilian population of the United States, as well as the lend-lease countries. The copper conservation order, designed to curtail the use of copper, was amended on January 13 to except health supplies from the restrictions of the order. The preference rating for copper or copper base alloy needed in the manufacture of items on the health supplies list will be A-10, or whatever higher rating may be assigned by the health supplies branch, according to the amendment.

A revised health supplies list, which was recently prepared, had not been approved by January 19. There was no official indication that the A-10 rating given to manufacturers of articles on the health supplies list would be changed, although from unofficial sources it was learned that the A-10 rating is not high enough to obtain deliveries of many materials needed by the manufacturers. To obtain certain scarce materials, some manufacturers have obtained higher ratings than A-10 by filing application on PD-1 forms.

Form PD-1 will be replaced on February 2 by a new and simplified blank PD-1A. Preference ratings assigned to manufacturers who use this form (which is optional until March 1) may be extended to suppliers and subsuppliers by executing the prescribed endorsement on purchase orders.

Hospitals were included among the industries and services covered by repairs and maintenance order, P-100, which replaced P-22 amended on December 18. The purpose of P-100, as of P-22, is to give preferential status to the industries included in procuring commodities necessary to the maintenance and repair of plants and equipment. In the case of hospitals, sanatoriums and official health agencies, the preferential treatment is interpreted to extend not only to repairs and maintenance but to all necessities for normal operation. It is not permitted, however, to purchase materials for expansion or betterment of property or equipment. In case such materials are needed and cannot be obtained without a preference rating, hospitals, like other listed industries, must file an application on a PD-1 or PD-1A form. The procedure under P-100 is similar to that described when P-22 was announced.

Dean C. Gallagher is now chief of the maintenance and repair section.

PROTECTION FROM CHAP
is built into this soap!

FOR winter scrub-up, no ordinary soap is as friendly to the skin as Germa-Medica. So completely does it cleanse *without chapping* that 60% of all hospitals use it.

Certainly there's a reason: every drop of Germa-Medica is compounded of *purest* edible cocoanut oil—blended with a generous amount of synthetic olive oil. All impurities are removed through a process of pressure filtration, and the high glycerine content prevents hard-water minerals from irritating tissue undergoing scrubbing. These explain Germa-Medica's *gentler* action . . make it the finest surgical soap your money can buy—summer or winter.

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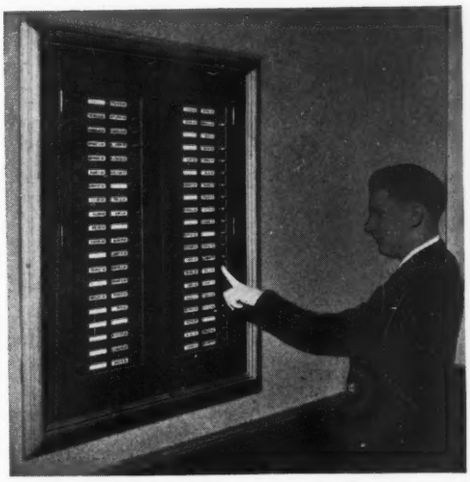
Selected by "Modern Hospital" as typical of America's outstanding hospitals, Salem Hospital has installed Holtzer-Cabot Signaling Systems to assist in safeguarding the welfare of patients and speeding up hospital administration.

Modern Holtzer-Cabot signaling equipment facilitates the care of an increased number of patients resulting from the city's important part in the defense program.

Examination of your own hospital signaling equipment will show whether you are operating with the efficiency demanded by the present emergency. Holtzer-Cabot sales engineers can show you how to modernize your signaling facilities quickly and efficiently.



Indication of the doctor's presence in the hospital is provided by the Holtzer-Cabot Staff Register System.

Holtzer-Cabot Nurses' Call and Phonacall Systems keep the patient in personalized contact with the nurses at all times—adding to her safety and well-being.* **Reg. U.S. Pat. Off.*

Nurse engages in two-way conversation with the patient by means of Holtzer-Cabot Phonacall. Patient listens in and talks through speaker-microphone at her bedside. A special "listening-in" feature enables the nurse to supervise the room without leaving her station.

The Holtzer-Cabot Electric Co.

Manufacturers of Hospital Signaling Systems

125 AMORY STREET, BOSTON, MASS. . . BRANCHES IN PRINCIPAL CITIES

Nursing Organizations Act to Meet Threat of Nurse Shortage in Hospitals

RUTH HILL ZIMMERMAN

Washington Representative, The MODERN HOSPITAL

A nursing shortage, which, according to Surgeon General Thomas Parran of the U. S. Public Health Service, has reached "alarming proportions," has brought about great activity on the part of nursing organizations in an effort not only to provide adequate personnel to meet the emergency but also to organize the needed types of nursing service by implementing them with necessary administration and financial support.

The Nursing Council on National Defense, a voluntary body made up of the five national professional nursing organizations and the American Red Cross Nursing Service, has set up state councils in each of the 48 states and Washington.

The first assignment of these councils, according to a statement issued by Paul V. McNutt, director of Defense Health and Welfare Services, on January 8, is the recruitment of student nurses. An effort is being made to increase the number of students entering schools of nursing from the usual 35,000 to 50,000 per year. Present indications are that unless spring enrollments are sharply increased over present plans only about 45,000 new student nurses will be training.

Fifty-four additional schools are to participate in the federal program for training student nurses during the spring term, according to present plans approved by the Public Health Service. In addition, the Public Health Service is aiding in providing postgraduate courses and refresher courses for nurses who have been inactive.

Efforts are being made to draw the 20,000 inactive nurses, who are willing to return to full-time duty, back into nursing service. This figure is based on estimates made from the 1941 National Inventory of Registered Nurses.

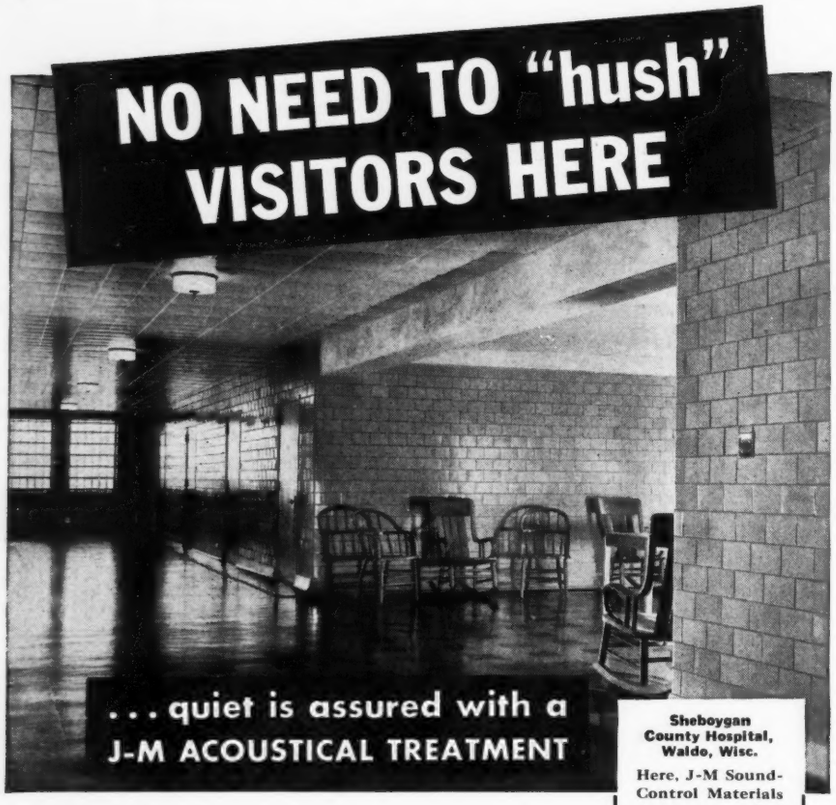
Alma C. Haupt, executive secretary of the subcommittee on nursing, in her statement of January 15 before the House committee investigation of national defense migration, mentioned the necessity for a job analysis. There is also increased need for qualified personnel for supervising and training the auxiliary nursing service.

The curtailment of private duty nursing where the regular floor nursing or group nursing would suffice is a suggestion made by Miss Haupt; another is that young, inactive nurses who are unable, because of family considerations, to take full-time positions should work part-time.

Public health nurses, according to Miss Haupt, should stay at their posts even though their patriotic impulse is to volunteer for military duty. Their services will be needed not only for control of communicable diseases and in general health work but also, in emergency, to provide auxiliary bedside care.

Four Base Hospital Units Called

WASHINGTON, D. C.—The U. S. Army had called out four of its base hospital units by January 15. Each of these units is said to be composed of sufficient personnel to staff a complete hospital, including about 125 nurses in each unit. The units called out were organized around the following institutions and have been ordered temporarily, for organization purposes, to the posts indicated: Pennsylvania Hospital, Philadelphia, to Fort Custer, Mich.; Harvard, Cambridge, Mass., to Fort Dix, N. J.; Washington University, St. Louis, to Fort Benning, Ga.; University Hospital, Cleveland, to Fort Jackson, S. C.



Sheboygan County Hospital, Waldo, Wisc.

Here, J-M Sound-Control Materials assure restful quiet. *Architect:* E. A. Stubenrauch, Sheboygan. *General Contractor:* Hunzinger Constr. Co., Milwaukee.

There is always some unwanted noise, even in the best run hospital, but there's no need for it to reach the ears of patients. A J-M Acoustical Treatment installed in the right places will soak up noise before it has a chance to reach disturbing volume—thus assuring the restful quiet so necessary in modern therapy.

J-M Materials meet every hospital requirement...They are sanitary, durable, easy to clean, and may even be painted without losing their unusually high sound-absorbing efficiency.

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The cost of a J-M Acoustical Treatment is so low that any hospital can afford the benefits it provides both patients and staff. For complete information, send for brochure AC-17A. Johns-Manville, 22 E. 40th St., N. Y. C.

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PERMACOUSTIC . . . SANACOUSTIC . . . TRANSITE ACOUSTICAL UNITS

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M. BURNEICE LARSON, *Director*

If Uncle Sam decides that you would not be useful in the Armed Forces . . . perhaps because of some minor physical handicap . . . or because your family depends upon you for support . . . don't despair of an opportunity to contribute something of importance to your nation's welfare.

Your training in medicine, in the nursing profession, in the sciences—your ability to administer the affairs of an entire hospital—have fitted you to do an outstanding piece of work during the crisis. You who are qualified to serve in the field of public health—to preside in operating rooms—to join a hospital nursing staff—to man the laboratories of hospitals, clinics, large industries—you can help keep the industrial workers of the nation physically fit, capable of giving their utmost.

If your training in the field of medicine, in any phase of hospital service, in the sciences has been or will soon be—completed, write us about yourself and what you are prepared to do. We, in turn, will be glad to point out to you the opportunities present for using that training to greatest advantage. May we hear from you today.

The MEDICAL BUREAU

PALMOLIVE BUILDING **CHICAGO**

Medical Students and Interns Will Not Be Called for War Service

WASHINGTON, D. C.—Hospitals will find their medical personnel problems in the war-time emergency clarified by recommendations to all physicians issued on January 17 by the procurement and assignment service of the Defense Health and Welfare Services.

The statement outlines procedures for obtaining commissions in the medical corps of the Army and Navy, for ensuring completion of medical courses and internships and enrollment of physicians for nonmilitary duties. It was prepared by the board of the procurement and assignment service, of which Dr. Frank H. Lahey is chairman and Dr. Sam F. Seeley is executive officer, in collaboration with officials of the War and Navy departments and Selective Service System.

While each case is to be decided individually, the recommendations provide for deferring induction of medical students so that they may complete their college courses and twelve months of internship. Junior and senior medical students and interns of less than twelve months are instructed to apply for commissions in the medical corps of the Army or Navy. If they are accepted, they will not be subject to induction under the Selective Service Act but will come under the jurisdiction of the Army or Navy, which plans to defer calling these officers to active duty until they have completed their medical education and at least twelve months of internship. Those who are not qualified physically for commissions will also be recommended for deferment so that they can complete their training. They should enroll with the procurement and assignment service for nonmilitary assignments.

Hospital staff members (including interns with more than twelve months of internship, assistant residents, fellows, residents, junior staff members and staff members) under the age of 45 who hold Army or Navy commissions may be granted temporary deferment by the Adjutant General of the United States Army or the Surgeon General of the Navy upon approval of the application of the institution concerned. The institution must certify that the officer is temporarily indispensable.

Institutions are advised to fill these positions with physicians who are over 45, with those under 45 who are physically disqualified for military service, with women physicians, or, in certain cases, with instructors and those engaged in research who do not possess an M.D. degree but whose utilization would make available a physician for military service. Hospital staff members who do not hold commissions are instructed to enroll with the procurement and assignment service.

Dr. George Baehr Named to Serve on Health and Medical Committee

WASHINGTON, D. C.—Dr. George Baehr, chief of the medical division of the Office of Civilian Defense, was named a member of the health and medical committee of the Office of Defense Health and Welfare Services on January 7 by President Roosevelt.

A new commission on vital records has been appointed by this committee. The commission held its first meeting on January 14 to discuss expediting the issuance of birth certificates and other necessary identification to applicants for jobs in industrial plants. State departments of health have reported that they have been flooded with work connected with these applications.

Members of the commission are: Dr. Lowell J. Reed, Maj. George D. Williams, Lieut. J. M. Wheelis, George Perrott, Dr. Halbert L. Dunn, Dr. I. S. Falk, Dr. John W. Ferree and Dr. A. W. Hedrich.

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Bill Authorizing Funds Up to $300,000,000 for Defense Areas Passed

WASHINGTON, D. C.—An additional $150,000,000 will shortly become available for federal aid in constructing, equipping and operating hospitals, schools, sewage disposal plants and other community facilities in defense areas, it was anticipated in Washington where the bill authorizing the appropriation of a total of $300,000,000 (the original authorization was for $150,000,000) for these purposes had been passed by both houses of Congress and, on January 22, was signed by the President.

Projects approved for federal aid under the Defense Public Works program during the month ending January 15 included 23 hospital projects and six health centers. An estimated $3,938,282, of which only $260,000 was in the form of loans, was allotted to the hospital projects and $163,150 for the health centers. These allotments bring the total for hospital and health purposes under this program to almost $18,000,000.

New hospitals are planned for five communities—Albany, Ga.; Wichita, Kan. (the new 145 bed structure will replace the present St. Joseph's Hospital, which is to be closed at the end of the war); Messina, N. Y. (60 beds); Charleston, S. C. (a 140 bed hospital under the control of the Medical Society of South Carolina), and Humboldt, Tenn. (50 beds).

Nineteen hospitals in various sections of the country are to have additions or alterations to provide facilities for additional patients.

A grant of $194,000 to the Los Angeles County General Hospital provides for the purchase of 700 beds and other equipment to put space already available to use.

Civilian Defense Volunteer Total Jumps to 3,500,000

WASHINGTON, D. C.—The number of volunteers enrolled in the various services of the Office of Civilian Defense jumped from less than 950,000 on November 23 to over 3,500,000 by January 12, according to a statement released by Director F. H. La Guardia. Among the volunteers assigned to community services are 136,676 classed as medical personnel.

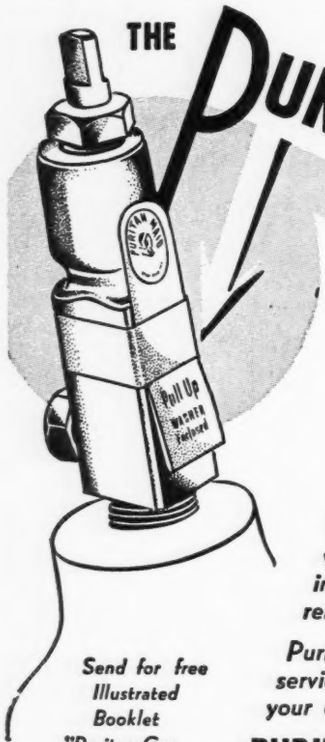
The Medical Division of the Office of Civilian Defense told the representative of THE MODERN HOSPITAL that hospitals and medical personnel have responded well. The hospitals, it was reported, have been especially cooperative in making inventories of emergency bed space and in organizing field crews. It is believed that in most communities, hospitals and medical personnel are prepared for any disaster that is likely to occur.

Dietitians Offered Refresher Course at Columbia University

A refresher course for dietitians, Institution Management s207G, will be offered at Teachers College, Columbia University, from July 6 to August 15. The course is being given cooperatively by Presbyterian Hospital, Montefiore Hospital and U. S. Marine Hospital, New York City, and will be open to dietitians whose training and experience are satisfactory to the instructors.

Observation and experience in the management of hospital food service, including menu planning, food ordering and preparation, service to patients, educational programs for students and food service administration in a government hospital, will be afforded. Students will register for this course and for Institution Management s151, which covers classes, conferences and clinics.

Since classes will be limited, it is advised that applications be made before May 1. Full information can be obtained from Dr. Mary deGarmo Bryan, Teachers College.



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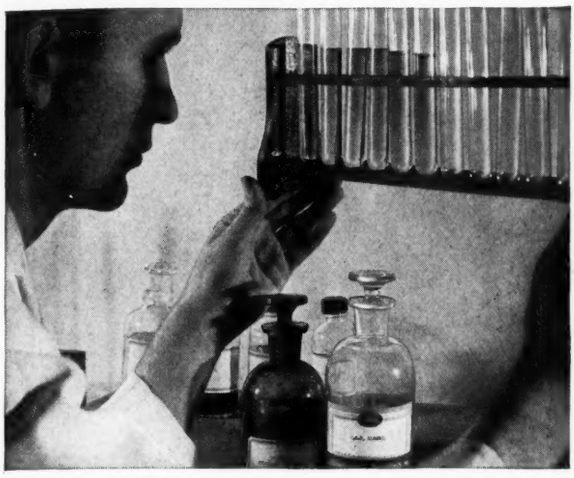

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Six Story Addition Included in Perth Amboy Building Plans

Perth Amboy General Hospital, Perth Amboy, N. J., is undertaking an extensive modernization and expansion program to meet the needs for additional hospitalization.

So far in the fund-raising campaign approximately $250,000 has been subscribed. Additional sources of support are being sought to make possible a new six story building, a modern heating plant and laundry, enlarged kitchen and nurses' dining room, modernization of the present building and liquidation of depression-incurred obligations.

In the new construction, emphasis will be placed on a large addition in semi-private accommodations. Private rooms will be large enough to be convertible into two-bed rooms in time of emergency. Ward accommodations will be enlarged through removing the partitions between certain rooms in the present structure and converting them into modern six bed wards.

Warns Against Use of Cadmium

Because of outbreaks of food poisoning, the Federal Security Agency last month warned the public against cadmium plated cooking utensils and refrigerator containers. Representatives of the agency have conferred with the plating industry and report that "it is probable that this industry will cease using cadmium for food-container purposes." O.P.M. has announced that it will not release cadmium for this purpose.

Speakers for Texas Meeting

"Hospital Adjustment to War," an address by Dr. Basil C. MacLean, president of the American Hospital Association, will be the highlight of the annual meeting of the Texas Hospital Association at the Rice Hotel in Houston, February 26 and 27. F. M. Law, president of the First National Bank of Houston and trustee of Memorial Hospital, will discuss "The World After the War." Other speakers will include C. Rufus Rorem, Dr. Lucius R. Wilson, Dr. Bert W. Caldwell, Dr. W. B. Russ and Fred J. Bommer, accountant, Nix Hospital, San Antonio. Robert Jolly will conduct a round table on hospitals in war.

Recommends Higher Rates

The New Jersey Hospital Association has recommended to its member hospitals that the present rate for care of patients covered by casualty insurance of $4.50 per day for ward service be raised to $6 per day plus extras.

Yale Students Serve Hospital

Yale undergraduates have volunteered their services as aids in the New Haven Hospital, New Haven, Conn., in war or other serious emergencies. Seventy of these volunteers now spend five hours a week in the hospital in the nursing service with two hours of lectures and three hours of practice. The American Red Cross is studying the program with the idea of extending it to other colleges and universities. The idea was proposed by the students themselves, all of whom are planning to study medicine.

Inclusive Rates Established

The inclusive rate plan for charging patients has recently been adopted by the Hospital of St. Barnabas and for Women and Children of Newark, N. J. A definite price per day has been established for each type of accommodation.

Ritz E. Heerman Honored

The insignia of the Royal Order of Vasa, first class, was bestowed upon Ritz E. Heerman, superintendent of California Hospital, Los Angeles, on November 12. Walter G. Danielson, vice consul of Sweden at Los Angeles, officiated at the ceremonies, representing King Gustav V of Sweden.

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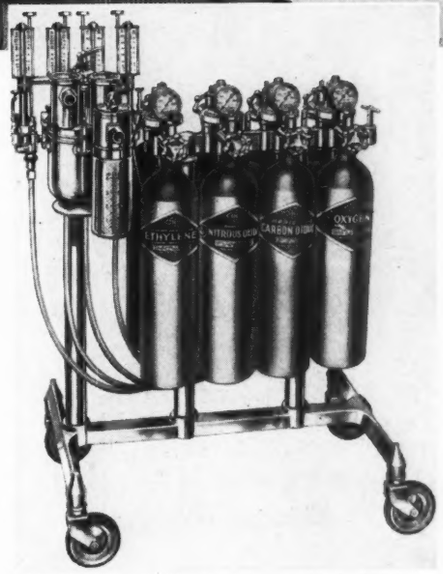

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A. M. A. Journal Warns of Difficulties in Speed-Up of Medical School Programs

Serious difficulties for hospitals are foreseen by the *Journal of the American Medical Association* if the plan to speed up the education of physicians is widely adopted.

"Unless colleges, universities and hospitals have their curriculums suitably integrated with the curriculums of the medical schools, the students will lose from three to six months spent waiting for entrance into medical courses or to internships in hospitals somewhere along the line."

The committee on medical preparedness of the Association of American Medical Colleges recommended that every medical school that could do so should try to turn out students in thirty-six months of continuous work instead of taking four years.

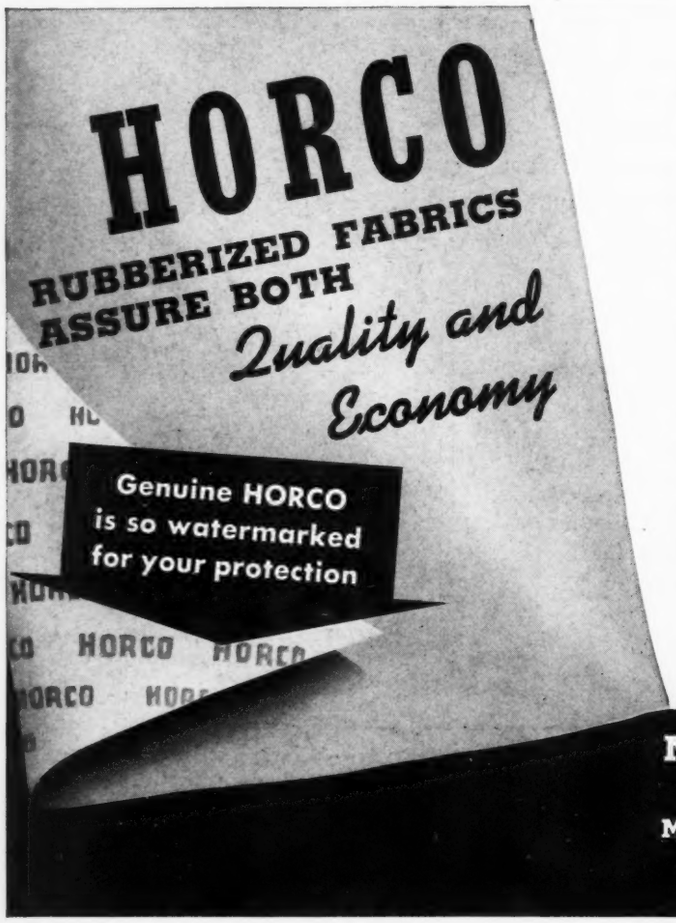
The American Medical Association questioned whether there were more than the present number of well-qualified candidates that could be found and also stated that the first fully speeded up class would not be graduated until June 1945 and, therefore, would probably be ready to practice too late to be of service to the armed forces in the present emergency.

Coming Meetings

Feb. 20-21—Arizona State Hospital Association, Phoenix.
Feb. 22—North Dakota Hospital Association, St. Alexius Hospital, Bismarck.
Feb. 26-28—Texas Hospital Association, Houston.
March 7-9—New Jersey Hospital Association, Hotel Dennis, Atlantic City.
March 11-13—New England Hospital Assembly, Hotel Statler, Boston.
March 20—Louisiana Hospital Association, Washington Youree Hotel, Shreveport.
April 6-10—American Congress on Obstetrics and Gynecology, Jefferson Hotel, St. Louis.
April 9-11—Southeastern Hospital Conference, Peabody Hotel, Memphis, Tenn.
April 13-16—Association of Western Hospitals, Olympic Hotel, Seattle, Wash.
April 14—Alabama Hospital Association, Jefferson Davis Hotel, Montgomery.
April 15-17—Pennsylvania Hospital Association, William Penn Hotel, Pittsburgh.
April 16-18—Carolinas-Virginias Hospital Conference, John Marshall Hotel, Richmond, Va.
April 21-23—Ohio Hospital Association, Neil House, Columbus.
April 23-24—Mid-West Hospital Association, Hotel Continental, Kansas City, Mo.
April 23-24—Kentucky State Hospital Association, Brown Hotel, Louisville.
April 27-29—Iowa Hospital Association, Fort Des Moines Hotel, Des Moines, Iowa.
May 6-8—Tri-State Hospital Assembly, Stevens Hotel, Chicago.
May 6-9—National Tuberculosis Association, Bellevue-Stratford Hotel, Philadelphia.
May 11—Mississippi State Hospital Association, Jackson.
May 12-16—South Dakota Hospital Association, Hotel Carpenter, Sioux Falls.
May 13-17—South Dakota Hospital Association, Y.M.C.A., Sioux Falls.
May 18-22—American Nurses' Association, National League of Nursing Education, National Organization for Public Health Nursing, Biennial Convention, Stevens Hotel, Chicago.
May 20-22—Hospital Association of New York, Hotel Statler, Buffalo.
May 22—Greater New York Hospital Association, New York City.
June 3-6—National Executive Housekeepers Associaton, Detroit.
June 8-12—American Medical Association, Atlantic City, N. J.
June 15-19—Canadian Medical Association, Jasper Park, Alberta.
June 22-26—Canadian Nurses' Association, Windsor Hotel, Montreal, Que.
Aug. 17-21—National Medical Association, Cleveland.
Aug. 24-28—American Dental Association, Boston.
Oct. 12-16—American Hospital Association, St. Louis.
Oct. 19-22—American Dietetic Association, Detroit.
Oct. 26-31—American Public Health Association, St. Louis.

Twenty-Fifth Anniversary Report

The twenty-fifth anniversary report of the George F. Geisinger Memorial Hospital, Danville, Pa., was distributed last month, although the anniversary took place in 1940. The report, a document of 112 pages, is handsomely illustrated and includes in addition to the customary material a history of the hospital delivered at the anniversary banquet by Dr. Harold L. Foss, surgeon-in-chief of the hospital.



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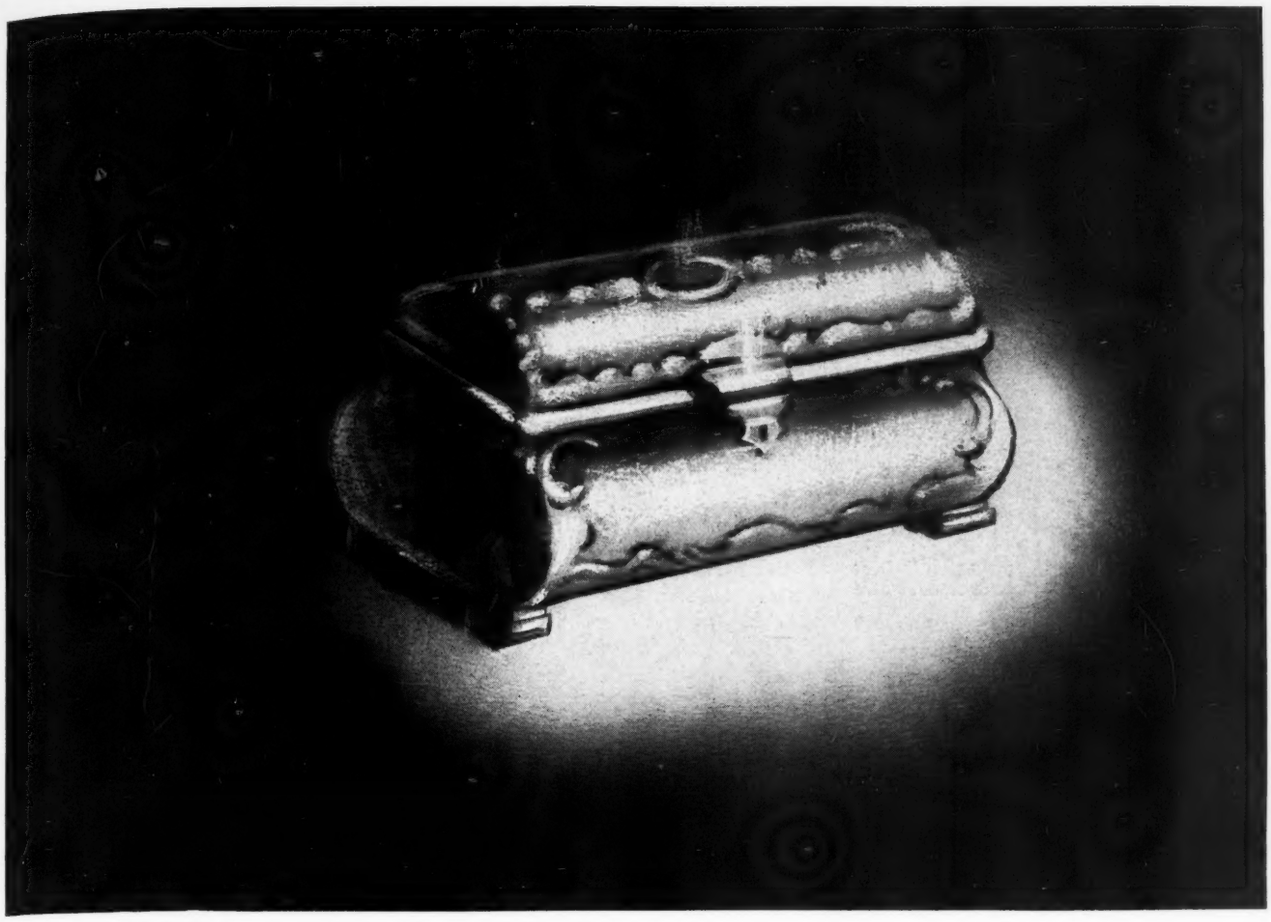

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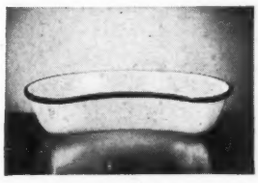

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Names in the News

Administrators

LEO M. LYONS, city relief commissioner of Chicago since 1936, has been named superintendent of St. Luke's Hospital, Chicago, it was announced recently by the board of trustees. At the same time,

Left: Leo M. Lyons, administrator. Right: Dr. A. P. Merrill, medical director of St. Luke's Hospital.

DR. A. P. MERRILL, who has been assistant director of the institution since 1940, was given the position of medical director. Prior to coming to St. Luke's Hospital, Doctor Merrill was assistant superintendent of San Francisco County Hospital.

DR. HARRY A. LABURT has been named superintendent of Harlem Valley State Hospital, Wingdale, N. Y., it has been announced by the New York State Department of Mental Hygiene. Doctor LaBurt succeeds DR. JOHN R. ROSS, whose transfer to Hudson River State Hospital was noted in the January issue.

A. L. LONGFIELD, superintendent of Washoe County General Hospital, Reno, Nev., retired on January 1. No successor has been appointed by the board.

DR. WILLIAM L. WALLBANK has been appointed superintendent of North Dakota State Tuberculosis Sanatorium at Bismarck. For the last three years Doctor Wallbank has served as senior physician of the institution.

LIEUT. C. C. CLAY (M.C.), U.S.N.R., former administrator of St. Barnabas Hospital, Minneapolis, who has recently been stationed at the U. S. Naval Hospital, Pensacola, Fla., has been transferred to the Section Base, Inshore Patrol, Fort Lauderdale, Fla.

AMY DANIELS, formerly superintendent of Tobey Hospital, Wareham, Mass., has been appointed superintendent of Elkhart General Hospital, Elkhart, Ind.

D. G. DUNCAN, superintendent of Columbia Hospital, Columbia, S. C., has resigned. His successor is J. B. K. DELOACH, who took charge of the hospital on January 1.

DR. ARTHUR E. SOPER, first assistant physician at Pilgrim State Hospital, Brentwood, L. I., has been appointed superintendent of Kings Park State Hospital, Kings Park, L. I. Doctor Soper succeeds the late DR. CHARLES S. PARKER, who died in March 1941.

THELMA B. WARD, R.N., became administrator of St. Peters' Hospital, Helena, Mont., on January 1, succeeding MRS. MARGARET K. FAIRWEATHER.

Department Heads

DR. R. S. BINKLEY has been named chief of staff of St. Elizabeth Hospital, Dayton, Ohio. He succeeds DR. W. G. CLAGGETT.

CARRIE H. ROSE has been appointed chief of the occupational therapy department at Colorado State Hospital, Pueblo, Colo. Miss Rose was formerly occupational therapist at Mount Hope Retreat, Baltimore, and at St. Francis Hospital, Philadelphia.

ESTHER C. MYERS, director of the school of anesthesia of Charity Hospital, New Orleans, has assumed the direction of the school of anesthesia of Mount Carmel Mercy Hospital, Detroit.

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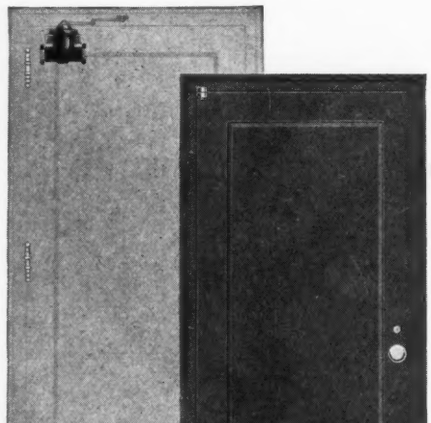

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GEORGE PECK, former personnel administrator at Michael Reese Hospital, Chicago, has been advanced to the position of assistant director in charge of personnel and of the admitting and information services. Other changes in the administrative staff of the institution include the appointment of MRS. IDA STRICK, graduate of the University of Chicago School of Business, as employment manager, and the selection of GLENN GADDIS as comptroller.

DR. EDWIN G. RAMSDELL has been appointed chief of staff of White Plains Hospital, White Plains, N. Y., succeeding the late DR. HENRY T. KELLY.

NORA T. MCCARTHY, director of nursing at Nassau Hospital, Mineola, N. Y., for the last five years, has resigned because of ill health. ANNA C. M. NELSON, formerly at Margaret Pillsbury General Hospital, Concord, N. H., has been appointed to fill the position.

MURIEL GRAHAM has been appointed dietitian of Emerson Hospital, Concord, Mass. Miss Graham is a graduate of the Boston School of Domestic Science.

MARGARET HUGHES of New York is the new night supervisor at Fairview Hospital, Great Barrington, Mass.

Miscellaneous

MARIAN E. RUSSELL has resigned the directorship of the Douglas Smith Fund, Chicago, to become executive secretary of the American Association of Medical Social Workers.

DR. HAROLD MARKS, who joined the U. S. Public Health Service last October, has recently been transferred from the National Institute of Health, Bethesda, Md., to the Office of Civilian Defense.

DR. STANLEY J. SEEGER, chief of staff of Children's and Columbia hospitals, Milwaukee, resigned recently to take up residence in Texarkana, Tex.

ROSS GARRETT has resigned the position of Health Security Administrator, which he has held since 1938. He has set up offices in Washington, D. C., as consultant on hospital and health activities.

Deaths

DR. A. J. BARKER SAVAGE, founder of Downtown Hospital, formerly Broad Street Hospital, New York City, died recently at the age of 52. Doctor Savage built the Broad Street Hospital in 1917. From 1924 to 1926 he devoted his time to building the Cranleigh Hospital, which has been renamed Beth David Hospital. Later, he returned to Broad Street Hospital as superintendent and remained there serving as consultant until his retirement in 1939 because of ill health.

Kansas to Have Blue Cross Plan

A committee of 14 prominent hospital administrators, physicians, trustees and business leaders has been appointed by the Kansas Hospital Association and directed to set up a Blue Cross plan for the state of Kansas. John R. Stone, business manager of the Menninger Clinic, Topeka, and president of the Kansas Hospital Association, was named chairman of the committee. The committee was given power to act and it is expected that it will incorporate a plan, raise funds for necessary operating capital and get an organization actually going during the coming year.

Telephone Tax in Hospitals

The new Revenue Act of 1941 imposes a tax on telephone messages that is applicable to hospitals as well as to hotels. The tax is equal to 6 per cent of the regular rates for local messages. For messages costing 25 cents or more the charge is 5 cents for each 50 cents or fraction thereof. Hospitals that charge telephone calls to patients will be in the same situation as hotels and will need to collect the tax from such patients or will find their telephone service a substantial added expense, according to G. Rush Willett, telephone engineer.

NOW MORE THAN EVER

This Privacy Pays in Many Ways

Never before has it been so urgently mandatory that hospitals work at peak efficiency. To free doctors and nurses of time-wasting screen-handling . . . to give ward patients the healing peace of mind that comes with privacy . . . investigate this profitable modernization method. Judd Equipment is used in over 900 hospitals. Write for details.

H. L. JUDD COMPANY, *Hospital Division:* 87 Chambers St., N. Y. C.; *Branches:* Chicago, Merchandise Mart; Detroit, 449 E. Jefferson Ave.; Los Angeles, 726 E. Washington Blvd.

With this patented design, curtains are arranged so as to entirely enclose each bed. Fixtures can be installed, *permanently* anchored to walls and ceiling, without disrupting hospital routine. Send for details.

JUDD Cubicle Curtain EQUIPMENT

What's New for Hospitals

FEBRUARY 1942 SUPPLEMENT TO THE MODERN HOSPITAL AND THE HOSPITAL YEARBOOK

THIS supplement presents information on significant hospital products for the use of administrators, department heads and medical personnel. Only items of definite application in hospitals are described.

THE MODERN HOSPITAL PUBLISHING CO., INC.
919 North Michigan, Chicago, Ill.

BLACKOUT PRODUCTS

Paint and shade manufacturers have developed new products to be used in preparing for blackout emergencies and many devices already in use for light-proofing x-ray and photographic rooms now take on a new significance.

Windows, skylights, glazed doors or other openings must be prepared with effective covering so that no light can seep through should a blackout signal be sounded. In hospitals where certain lights cannot be turned off if essential services are to be continued, it is necessary to have adequate blackout facilities. In addition to their value in obscuration or complete sealing to prevent seepage of light, some of these blackout preparations afford a protection against danger from shattered glass, should there be an explosion, by preventing it from flying into the room.

This article has been prepared with the thought that sources of supply for blackout materials will be of immediate interest and service to our readers.

Blackout Paints (Key No. 615)

Blackout and luminescent paints are available from a number of sources. For areas which can operate as effectively with the more permanent blackout of paint, such as stair wells, outside glazed doors, elevator penthouse windows and similar openings, it is recommended that the outside surface be painted with the specially prepared paint for glazed surfaces. To reduce daytime visibility color contrasts should be avoided. A color to harmonize with the building itself is advised rather than black for this purpose since the latter would intensify these areas in the daytime and if photographs were taken of the section in which the building is located. An olive drab camouflage paint for exterior use especially prepared for painting on glass has been developed by a number of manufacturers. Black paint of this type is also available.

It is suggested that the paint be used on the outside of the windows to eliminate glare on moonlight nights. In some instances a white or colored paint to harmonize with the interior decoration of the room can be painted on the inside of the window or glazed door to improve the appearance of the room. Exterior varnish is also recommended for the outside of windows with fine sand or other similar material applied to prevent glare. Special varnishes which dry with a rough surface serve this same purpose. Similar paint has been developed for outside metal to prevent reflection of light. These paints have been developed for special outside use to withstand weather conditions and are easily removable with varnish removers and other solvents without injury to the glass.

Other developments are luminous, fluorescent and phosphorescent paints for door knobs, light switches and other objects which must be found in the dark. White or luminous paints are recommended for stair edges, curbs and steps to lessen the danger of accidents during blackouts.

Following is a list of manufacturers who have already indicated to us that they have special paints for blackout use for both exterior and interior application:

American-Marietta Co., 43 E. Ohio St., Chicago, Ill.
Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York, N. Y.
Devoe & Raynolds Co., Inc., 44th St. & 1st Ave., New York, N. Y.
McDougall-Butler Co., Inc., Buffalo, N. Y.
Midland Paint & Varnish Co., Cleveland, Ohio
National Chemical & Mfg. Co., 3617 S. May St., Chicago, Ill.
Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa.
Pratt & Lambert, Inc., 75 Tonawanda St., Buffalo, N. Y.
L. Sonneborn Sons, Inc., 88 Lexington Ave., New York, N. Y.
Sherwin-Williams Co., 101 Prospect Ave. N. W., Cleveland, Ohio
Truscon Laboratories, Detroit, Mich.
U. S. Gutta Percha Paint Co., Providence, R. I.
Wilbur & Williams, Inc., 456 Park Square Bldg., Boston, Mass.

Blackout Shades (Key No. 616)

Effective protection against light seepage from inside may be obtained through the use of blackout shades. Many of these have been designed for use in x-ray rooms and for darkening rooms or auditoriums for motion pictures. They now have application to keep the light in rather than out. Users are warned, however, that while special shades may seem to darken the room or to shut in the light, care must be taken that there is no leakage around the shades. To ensure this either the shades must be wider and longer than the windows or especially designed channels and roller housings may be fastened to the window casings. These must be ordered to specification to fit each window. Also special tapes or clips to keep the shades tight may be used.

Blackout shades are available in various colors in addition to black. Some are black on the outside and tan or other light color on the inside so that in case of blackout the patient or occupant of the room is not depressed by a black shade. Other colors are available which are said to be as effective as black in keeping the light in. Most of the blackout shades are washable and durable. Special shades for skylights are also available. It is suggested that so far as practicable a reserve supply of shades be provided.

Manufacturers who have already indicated to us that they are equipped to furnish blackout shades and are ready to serve hospitals are listed below:

Bar-Ray Products, 209-25th St., Brooklyn, N. Y.
Beckley-Cardy Co., 1632 Indiana Ave., Chicago, Ill.
Clopay Corp., Cincinnati, Ohio
Columbia Mills, Inc., 225 Fifth Ave., New York, N. Y.
Luther O. Draper Shade Co., Spiceland, Ind.
General Electric X-Ray Corp., 2012 Jackson Blvd., Chicago, Ill.
Higgin Products, Inc., Newport, Ky.
Kane Mfg. Corp., Kane, Pa.
Ray Proof Corp., 330 E. 26th St., New York, N. Y.
Chas. W. Rice & Co., Union City, Ind.

Address manufacturers for further information and prices—or use Readers' Service blank on page 179

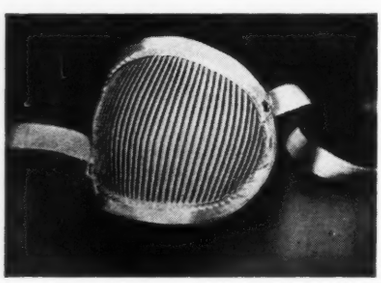
Blackout Candles

A new candle designed with a pedestal type base that keeps it upright without need of a holder has been especially designed for emergency use. Known as the Blackout Candle it measures five and one half inches, burns approximately five hours and is said to be dripless and smokeless. The manufacturer advises that it can be placed in any level spot without danger of tipping over. **(Key No. 617).**

Will & Baumer Candle Co., Inc., Dept. MH, 15 E. 32nd St., New York, N. Y.

Eye Shield

The Adjusto Eye Shield has gentle, durable flexibility which permits it to be molded to conform to all types of eye dressings or to the naked eye. It can also be molded around the lens of eye glasses.



Made of pleated material to allow for adjusting expansion over bulky dressings the shield shuts out all light. It is so formed that it can be adjusted to fit around the bridge of the nose and is constructed so that it can be sterilized by boiling or autoclaving. It is available in two colors, black and flesh, and in two sizes, regular and large. **(Key No. 654)**

Adjusto Eye Shield Co., Dept. MH, 1060 Lexington Ave., New York, N. Y.

Sound Deadening Paint

A paint-like product known as Tanco is used to deaden sounds on metal plates used on floors. It is also effective on metal cabinets, air ducts, blowers, hospital equipment, kitchen equipment, air conditioning equipment, metal partitions, table tops and ventilators.

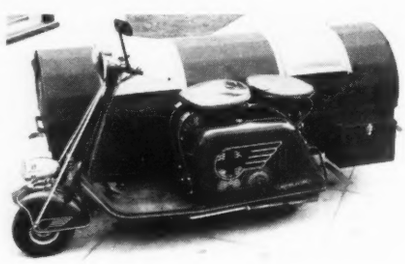
Applied with a brush it gives a pleasing finish and is available in gray or in colors on special order. It can be painted over any surface or applied directly to any metal except zinc and galvanized surfaces where pre-treatment is necessary. It is not materially affected by either sudden or extreme changes of temperature. Applied in a one sixteenth inch coating, one gallon will cover twenty-five square feet. As a method of reducing noise of metal construction or equipment items it is claimed by the maker to be effective. **(Key No. 646)**

Thompson & Co., Dept. MH, P. O. Box 6757, Pittsburgh, Pa.

Mono-Ambulance

A new development in ambulance service has been brought out in the Mono-Ambulance, a Salsbury motor glide with a stretcher conveyor attached. The conveyor for patients is six feet eight inches long and twenty-six inches wide. The total width of the stretcher carrier and power unit is fifty-five inches. There is room for an attending physician or nurse in addition to the driver on the motor unit and the patient carrier is a spring suspended stretcher over knee action wheels.

The cover over the patient has zippered windows which permit either the driver or the physician to attend the patient in transit. Circulation in the ambulance is provided by ventilating screens in the front and top rear and a zippered compartment at the rear of the machine carries a standard first aid kit. The driver may give necessary attention to the patient when there is no attendant as the automatic transmission and fluid drive make the motor unit simple to operate.



The conveyance is ruggedly built with steel cross pieces to strengthen the stretcher carrier and it has reinforcing in the coupling and motor glide. It is claimed that the unit will operate 105 miles on one gallon of gasoline with oil consumption correspondingly low. A speed of thirty miles an hour with a full load can be maintained. Each ambulance is equipped with red and white headlights, standard police siren and fire extinguishing equipment. **(Key No. 619)**

Mono-Ambulance Corp., Dept. MH, 6253 Hollywood Blvd., Hollywood, Calif.

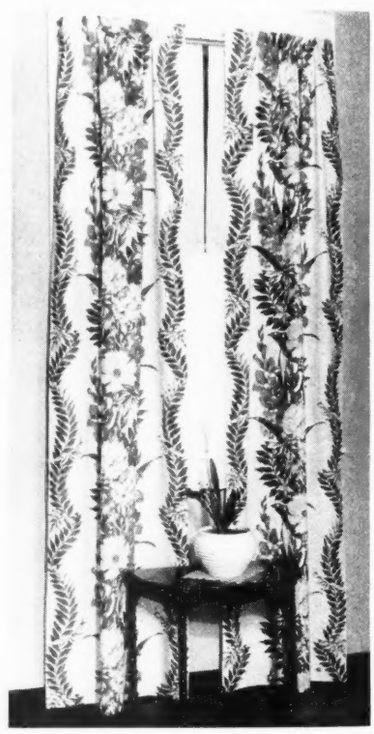
Plastic Flashlight

The Gits Plastic Eye Flashlight is made entirely of durable plastic, including the lens, and is structurally designed to afford a practically indestructible unit. The nonconductive case is available in a wide variety of colors and several shapes, including the torpedo design which won the plastic award. The durability of this flashlight renders it of especial value for use in case of blackout. **(Key No. 618)**

Gits Molding Corp., Dept. MH, 4600 Huron St., Chicago, Ill.

Cellulose Window Draperies

BenMont cellulose draperies are said to give months of satisfactory service and may be replaced with fresh patterns at approximately the cost of drapery cleaning. Pressed, not woven, from wood cellulose, these new type draperies are attractive in appearance and easy to keep clean and sanitary.



The draperies are hemmed, headed and ready to hang with shaped tie-backs. Having no weave or mesh there is no lint and dust cannot accumulate. They can be cleaned by simply wiping with a slightly dampened cloth. Multi-color floral patterns with a variety of background colors are available. **(Key No. 626)**

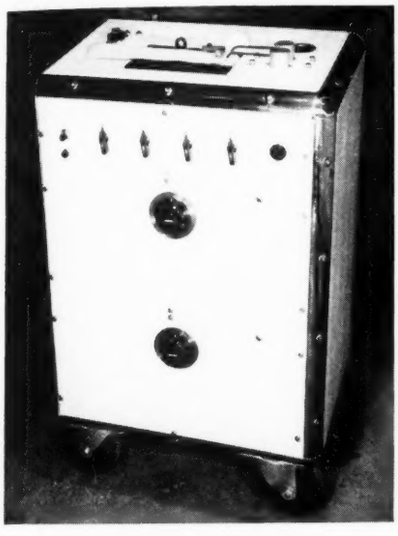
BenMont Papers, Inc., Dept. MH, Bennington, Vt.

Address manufacturers for further information and prices—or use Readers' Service blank on page 179

Multi-Channel Electro-encephalographs

The Multi-Channel Garceau Electro-encephalographs permit of greater speed in obtaining a complete set of tracings and greater facility in establishing localization of lesions. They are similar in principle to the single-channel Junior Garceau Electroencephalograph announced in August 1941 in these pages.

Mounted in floor cabinets which roll on large shock absorbing wheels, the instruments operate entirely from the 115 volt, 50 to 60 cycle power line. The controls are grouped on the front panel and the recorders are set in the horizontal top. Sixteen active scalp electrodes which can be connected to the amplifying channels in every possible combination by the selector switches are



provided. A direct writing inkless recorder makes a permanent record by electrical means. The trace is instantly visible and requires no processing or developing. A built in interference eliminator permits the apparatus to be used anywhere without precautions for installation and without shielding the patient.

Illustrated is the Two-Channel or Twin Garceau Electroencephalograph with cabinet and panels finished in ivory alligator enamel with chromium trim. Also available are three, four, six, twelve, up to twenty channel Garceau Electro-encephalographs. **(Key No. 645)**

Electro-Medical Laboratory, Inc., Dept. MH, Holliston, Mass.

Automatic Humidifier

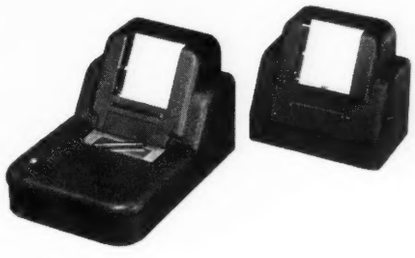
Designed as an integral part of the heating system, the Warco Moisturator may be used on steam vapor, hot water or warm air heating systems. It may be installed beneath the radiator, thus requiring no usable space. It provides a controlled evaporation and distribution of humidity which safeguard health, prevent drying out of woodwork and plaster, reduce dust and cut down static electricity.

The Moisturator is described as a compact unit, automatically operated, noiseless and simple in operation, with no moving parts to get out of order. Steam is supplied to this humidifier from the heating system or on other than steam systems, from the special Moisturator heater. The steam passes through the copper evaporator tube and as the water is evaporated a precise float valve admits more water as needed. The Warco Moisturator is adaptable for use wherever radiant heat is employed. **(Key No. 655)**

W. A. Russell & Co., Dept. MH, Bridgeport, Conn.

Improved Telescriber

Two new features are included in the Model Y TelAutograph telescriber recently released. To increase speed of operation the complete writing field is automatically cleared of each message by one touch of a starter switch and an electric paper take-up replaces the manual winder used on earlier models of the telescriber.



Writing, sketches or figures in facsimile can be transmitted instantaneously to a number of stations at once or to any one or more stations selectively. The model illustrated on the left both sends and receives messages and that on the right receives only.

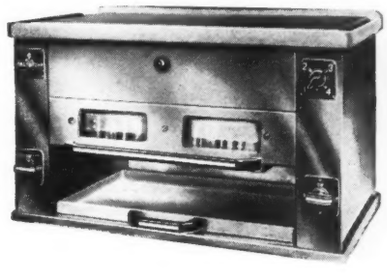
The advantages of TelAutograph telescriber service are said to be speed of transmission of messages, accuracy of written messages and permanent record of all messages. It is adapted for use in the admitting office, discharge office, for paging doctors or other personnel, for requisitions and for many similar uses. **(Key No. 636)**

TelAutograph Corp., Dept. MH, 16 W. 61st St., New York, N. Y.

Heavy Duty Gas Broiler and Grill

The MagiKitch'n heavy duty gas broiler and grill cooks foods on both sides without turning. It grills from below and broils from glowing radiants above which produce a charcoal broiling effect. No grease is required for cooking and the heat applied simultaneously from top and bottom seals in the juice and flavor while reducing cooking time. Meat and fish may be cooked at the same time without cross flavoring.

The two separate burners with automatic pilot lights each heating one half of the grill may be set for varying heats and the upper broiler and lower grill have individual controls. The heat produced by the char broiling radiants in the upper part of the grill may be deflected to heat the top griddle which can



be used for toasting or heating breads, making griddle cakes and other purposes.

The cooker is well insulated with rock wool and is said to be smokeless and odorless in operation. When the broiler door is opened the griddle swings out, thus lessening danger of burns. The heavy cast iron chrome-plated door has pyrex windows and a handle that stays cool. The exterior is of porcelain enamel and chrome and it is rustproof throughout. The unit is easily cleaned as parts are removable. **(Key No. 644)**

MagiKitch'n Equipment Corp., Dept. MH, Quakertown, Pa.

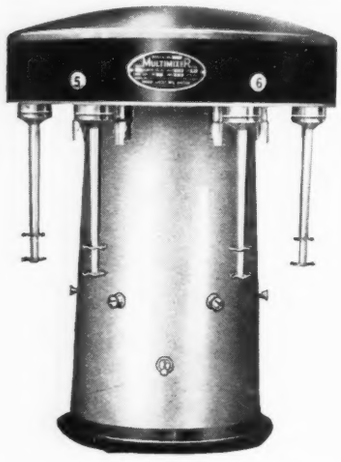
Blackout Bulb

A special electric light bulb which may be kept burning during blackout periods without danger of observation has been recently announced. It provides a soft beam of blue light that is safe for indoor visibility. The bulb is lined with a pure silver reflector lining that hides filament glare and projects the light downward. A black silicate coating on the outside covers the bulb to the extreme lighting end and prevents light leaks. **(Key No. 662)**

Wabash Appliance Corp., Dept. MH, 335 Carroll St., Brooklyn, N. Y.

Beverage Mixer

The new Multimixer for preparing eggnogs, malted milks, fruit drinks and other mixed beverages is designed for heavy duty service. It is available with 3, 4 or 6 spindles and the ¼ h.p. motor operates at constant speed regardless of



load. The Multimixer permits quantity production of mixed beverages and turns on its base so that each spindle, which operates individually, is easily accessible.

The motor is said to have been especially developed for quiet operation, there being no brushes or commutators, and there is no radio interference when the mixer is in operation. It operates on 110 volts, 60 cycle A.C. **(Key No. 584)**

Malt-A-Mixer Co., Dept. MH, 121 W. Wacker Drive, Chicago, Ill.

Commercial Electric Range

The Akron "Kitchen King" commercial electric range is sectionally constructed so that the cooking surface and

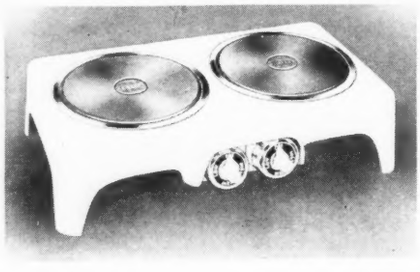
the bake oven may be purchased separately to suit requirements. The cooking unit is divided into three surfaces, each half section controlled with separate three heat switches, permitting flexibility and economy of operation. Top and bottom oven units have separate three heat switches to provide any combination for baking and roasting. **(Key No. 657)**

Associated Products, Inc., Dept. MH, 275 W. Market St., Akron, Ohio.

Electric Hot Plates

A new hot plate for use in diet kitchens, floor kitchens, laboratories and other departments requiring quick heating units is equipped with Chromalox Heatflo units. Of a special alloy casting with nickel chromium coils embedded in refractory in channels in the underside of the plate, the heat units are durable and easy to keep clean. They are said to provide an even distribution of heat and will not warp.

The white porcelain finish makes for sanitation and quick cleaning. The



frame is of heavy serviceable cast iron. Available in single or double frame, 1200 or 2000 watt units, the plate has a switch for three heat operation on 115 or 230 volts. **(Key No. 576)**

Edwin L. Wiegand Co., Dept. MH, 7500 Thomas Blvd., Pittsburgh, Pa.

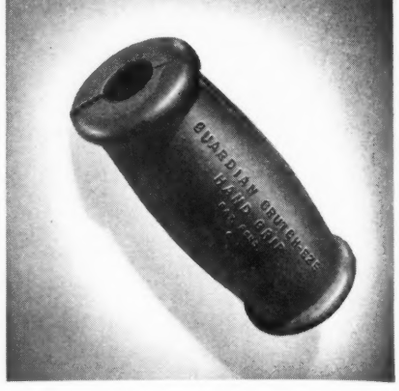
Stearns Nasalator

Constructed of transparent plastic material, the new Stearns Nasalator is designed as a convenient and portable device for the rapid inhalation of a fine spray of vasoconstrictor solution over the nasal mucosa. It holds a good supply of medication and is easily refilled by means of a dropper. The cap prevents leakage and also prevents the solution from becoming contaminated. The Nasalator has recently been accepted by the American Medical Association. **(Key No. 588)**

Frederick Stearns & Co., Dept. MH, Detroit, Mich.

Rubber Crutch Handle

A simple device providing comfort and safety to the patient is the Crutch-Eze latex sponge rubber hand grip which slips over the handle of a crutch. Molded to fit the hand, this product is easily slipped on and fits all standard

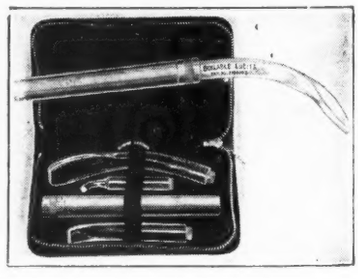


crutches. It is said to eliminate calloused hands, cramped fingers, aching wrists and paralyzed arms. **(Key No. 656)**

Guardian Latex Products, Inc., Dept. MH, 2861 W. Avenue 35, Los Angeles, Calif.

End-Lite Professional Kit

The End-Lite Professional Kit is a nickel-plated leather zipper case of small size with two batteries and Mazda bulb fitted with on and off switch and one hand control. The instrument itself, with interchangeable lucite adapters, is said to be unbreakable and transmits light through a curved path and out the end of the instrument without glare and with practically no loss of illumination. It can be easily sterilized by boiling or other ordinary methods. The various



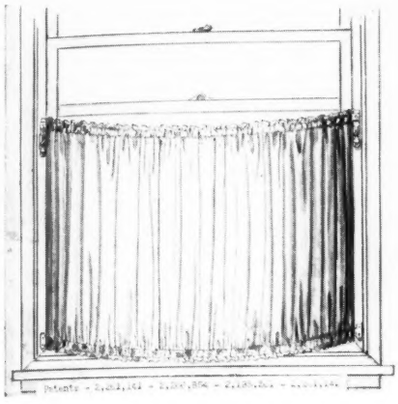
shaped adapters are said to put the light into the exact spot desired, no matter how inaccessible, in a direct concentrated beam. **(Key No. 624)**

Emeloid Co., Inc., Dept. MH, Arlington, N. J.

Address manufacturers for further information and prices—or use Readers' Service blank on page 179

Window Shield

A new window shield which provides privacy and good ventilation with windows open is now available. This device consists of two horizontal bars which slip through top and bottom hems of curtain material to form the arcuate shield. It protects occupants of a room from direct winds or drafts and keeps dirt from blowing through the room. It can be used with or without venetian blinds, shades, hangings and ventilators and keeps curtains from blowing through open windows.



The Air-Lite Window Shield is easily removed or can be left in permanent position. Four steel sockets are screwed permanently to the window frame and the shield slides easily in and out.

In addition to its effectiveness in hospital rooms, the window shield is suitable for use in examining rooms, medical and dental clinics and similar departments. **(Key No. 637)**

Air-Lite Window Shield Corp., Dept. MH, 41 E. 57th St., New York, N. Y.

Power Unit for Fluorescent Fixture

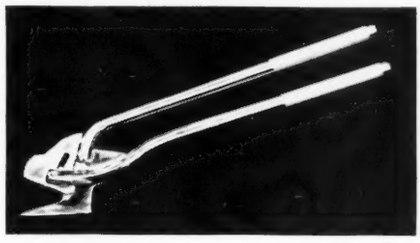
The new National 999 Power Unit for fluorescent fixtures is said to eliminate the need for starters, starter switches, starter sockets and compensator and provides instantaneous light when switched on.

The self-polarized, double circuit principle makes it possible for the unit to provide full brilliance, reduce stroboscopic effect to a minimum and eliminate radio interference. It is said to be so constructed that it cannot overheat or be seriously damaged by overloading when it is properly connected. **(Key No. 611)**

National Transformer Corp., Dept. MH, 224-21st Ave., Paterson, N. J.

Nonclogging Cast Cutter

The Kuhlman Kast Kutter for removing plaster casts is said to be an improved plaster shears. It is nonclogging or jamming and eliminates any danger

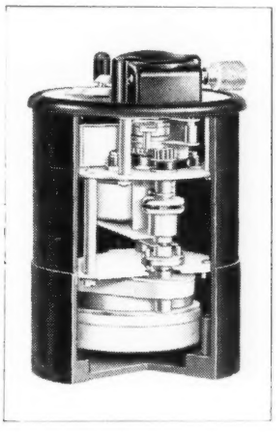


of cutting the patient. Due to the forward motion of the power handle when making a cut, the part of the cast next to the skin is forced upward, thus lessening the pressure on the patient. The device will also cut felt and sponge rubber padding. It has stainless steel rivets of one quarter inch diameter and is plated with hard chrome for long wear. **(Key No. 625)**

Stanley Kuhlman, Dept. MH, 1811 Joffre St., Toledo, Ohio.

Cramer Time Relays

The new Cramer Time Relays are designed for use on electrical circuits where a time delay action is required.



The manufacturer states they are synchronous motor operated timers which keep an electrical circuit closed for a preset time interval or can be used as time delay relays which when energized keep a circuit open for a selected interval.

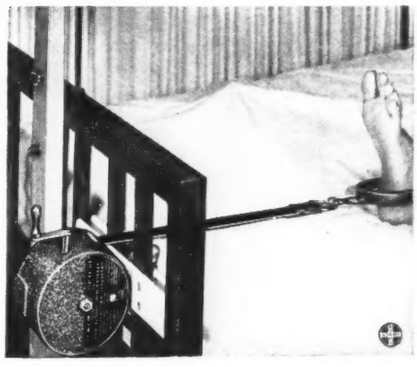
The instantaneous reset feature is said to reset the timing without manual resetting but manual operation is provided for when desired. **(Key No. 610)**

R. W. Cramer Co., Inc., Dept. MH, Centerbrook, Conn.

Traction Reel

The Herzmark-Adams Traction Reel is a power spring apparatus for use in all types of traction, including skin or pin traction, skull traction, overhead traction from a frame, as well as counter traction.

This is a small, lightweight self-contained unit utilizing a power spring and gear arrangement for varying traction from one to twenty pounds which is registered on a scale. Easily operated by a removable handle, the adjustment cannot be changed except by the physician or nurse.



The features of this device, according to the manufacturer, include no loose or swinging parts, no cumbersome accessories, degree of traction accurately adjustable, ease of installation on any rigid frame and stability of traction even when patient moves or beds are made or moved. **(Key No. 635)**

Clay-Adams Co., Inc., Dept. MH, 44 E. 23rd St., New York, N. Y.

Cranberry Flakes

A new method of purchasing cranberries is provided in "Suits-Us Cranberry Flakes." The best Cape Cod cranberries are said to be used and skin, seeds and water are removed by a scientific dehydration process. The "Flakes" are put up in cans and the full flavor of the berry is retained as well as its vitamin content.

One pound of cranberry "Flakes" equals ten pounds of fresh cranberries, hence storage space is saved. The product is said to contain eleven out of fifteen important minerals found in the body. Quantity recipes are available and with the "Flakes" cranberry dishes with all of the flavor of fresh berries can be served at any time of the year. **(Key No. 634)**

Colley Cranberry Co., Dept. MH, Plymouth, Mass.

Pharmaceutical

Synkayvite, Roche

Synkayvite, Roche, is a new synthetic vitamin K compound offered for use in obstructive jaundice and other hepatic and intestinal disorders where vitamin K deficiency may be apparent or suspected, also in hemorrhagic diseases, particularly in infants, due to vitamin K deficiency. It is said to be a stable substance of high vitamin K activity and low toxicity which is water soluble so that when given orally the adjunctive use of bile salts for complete absorption is not required. The product is supplied in boxes of 6, 25 and 100 ampules, 5 mg. and 10 mg. strength, also in bottles of 40, 100, 500 and 1000 tablets, 5 mg. strength. **(Key No. 650)**

Hoffmann-La Roche, Inc., Dept. MH, Nutley, N. J.

Hydrocholin (Armour)

Hydrocholin, recently placed on the market by Armour Laboratories, is available in tablet form. It is crystalline dehydrocholic acid, an oxidized or keto form of cholic acid derived from natural bile.

Hydrocholin produces marked hydrocholeresis, or an increase in the output of bile, with a higher water content and a decreased viscosity. The product is available in 3¾ grain tablets. **(Key No. 525)**

Armour Laboratories, Dept. MH, Chicago, Ill.

Cedilanid

A stable preparation of lanatoside C, Cedilanid is said to be characterized by a rapid onset of the typical digitalis effects on the heart. When given intravenously the rapidity of onset of action is said to compare to that of strophanthin.

Because of its crystalline state, Cedilanid being a crystalline glycoside obtained from the fresh leaf of digitalis lanata and not found in digitalis purpurea, dosage is computed by weight rather than by the cat unit. The manufacturer reports that recent investigations have shown that the cat unit is not an accurate index of the therapeutic potency of digitalis glycosides in man.

Cedilanid is reported as affording stability, injectibility and accurate dosage in digitalis therapy. It is supplied in 0.5 mg. tablets in bottles of varying quantities and in 0.2 mg. per cc. ampules, 2 cc. size for intravenous or intramuscular injection and 4 cc. size for intravenous injection. **(Key No. 639)**

Sandoz Chemical Works, Inc., Dept. MH, 68 Charlton St., New York, N. Y.

Anti-Anemia Capsules Ferrous Sulfate with B_1

Each capsule of Ferrous Sulfate with B_1, Squibb, contains 3 grains ferrous sulfate exsiccated (approximately 60 mg. iron) together with 1 mg. pure crystalline thiamine hydrochloride (333 U.S.P. XI units vitamin B_1). They are designed for oral administration in the prophylaxis and treatment of secondary anemia, especially where the addition of vitamin B_1 is considered desirable, as during pregnancy and lactation, infancy and childhood, and in patients with anorexia associated with thiamine lack. They may also be useful as a supplement to liver therapy in the treatment of pernicious anemia when an iron deficiency also exists.

The suggested daily dosage for adults is three capsules, possibly increased to four or five during pregnancy, and for children one or two capsules. They are preferably taken in divided doses 15 to 30 minutes before meals. The capsules are supplied in bottles of 100 and 1000. **(Key No. 629)**

E. R. Squibb & Sons, Dept. MH, 745 Fifth Ave., New York, N. Y.

Burows Solution Base

A new method for making Burows Solution is offered in the Burows Solution Base, Lead Free (Wise). Burows Solution is made simply and easily, according to the manufacturer, by adding this base solution to acetic acid and water. The product was perfected after three years of research and seven months of clinical tests. The Burows Solution N. F., Lead Free, made from the base, is said to be a superior quality remedy, standardized and always uniform. The base solution is available in individually packed half gallon bottles which produce two and three quarters gallons Burows Solution N. F., Lead Free. A single gallon or less may be made at a time and directions are given on the label. **(Key No. 659)**

Irving Wise & Co., Dept. MH, 124 W. 18th St., New York, N. Y.

RECENT CATALOGS AND BOOKLETS

• Swift & Company, Union Stock Yards, Chicago, Ill., is issuing a series of booklets on methods of cutting meats to get the best results. The first, "Cutting for Greater Yields, No. 1—The Beef Chuck," begins with a detailed description of the cutting of the chuck by a newly perfected method that gives more than twice as much meat for pot roast. The booklet is made unsually large for better illustration and photographs clearly picture each step in the process. A detailed chart gives yields, cost per cooked weight and cost per serving of the meats obtained from the chuck. A pocket in the inside back cover contains recipes based on 100 servings for cooking the beef in different ways. Other booklets of a similar type are planned for cutting and preparation of other cuts of beef, lamb and veal. **(Key No. 640)**

• An attractive booklet entitled "How to Choose a Mattress" has recently been issued by Owen Silent Spring Co., Inc., Bridgeport, Conn. The features of a good mattress are discussed and explained and suggestions made for the proper care of mattresses to make them last longer. **(Key No. 660)**

• A series of leaflets on "H & R Mixes" has been issued by Pillsbury Flour Mills Co., Institution Department, Minneapolis, Minn. The H & R Mixes have been especially designed for institutional use. A general purpose flour milled from a new and exclusive blend of choice wheats, it combines the advantages of many different single purpose flours. The literature describes its use for biscuits, sweet dough goods, waffles and other cooking and baking needs, arising constantly in institutional meal planning. **(Key No. 621)**

• The "Hospital Price List" of Ciba pharmaceutical specialties, effective September 1941, has been issued by Ciba Pharmaceutical Products, Inc., Lafayette Park, Summit, N. J. It gives the complete list of products with prices for the various sizes and types of packages. **(Key No. 651)**

• A complete description of **"The Sterisol Blood Bank and Transfusion Unit"** is given in a booklet issued by Sterisol Division, Schering & Glatz, Inc., 113 W. 18th St., New York, N. Y. The manufacturer states that this complete unit was developed to facilitate the collection, safe storage and indirect transfusion of blood. Also that it is leakproof, nonclogging, does not collapse the vein, is simple to assemble and convenient to use. **(Key No. 564)**

Address manufacturers for further information and prices—or use Readers' Service blank on page 179

• "The Heinz Book of Quantity Recipes and Menus" is being offered to hospital dietitians at no cost by H. J. Heinz Co., Pittsburgh, Pa. This attractively illustrated 128 page book contains hundreds of recipes for wholesome, economical dishes that yield up to 75 servings. Included are a number of menu suggestions as well as suggestions for special plate servings. Quantities of different food products needed to serve 50 people are listed and a table of weights and measures employed in the book is included. A complete index followed by blank pages for other recipes makes the book of practical usefulness. **(Key No. 633)**

• A new edition of "Simplified Cleaning for Hospitals" has recently been issued by J. B. Ford Co., Wyandotte, Mich. This 80 page manual was prepared especially to show how well suited Wyandotte products are to provide exacting, healthful cleanliness and safe washing methods. It discusses maintenance cleaning, dishwashing and culinary cleaning and laundry work. Directions are given for using all the Wyandotte products, including formulas for laundering processes. **(Key No. 661)**

• **"Why Rye,"** a 16 page book on whole rye and its value in normal and in special diets, has been compiled by the Ralston Research Laboratories, St. Louis, Mo. For the benefit of men and women professionally interested in nutrition, the information given is based upon scientific analysis of stable whole rye food. The booklet is bound in such a way as to be suitable for reference filing and a copy will be sent on request. **(Key No. 602)**

• A new catalog, **"Rotary Oildraulic Elevators,"** has been issued by the Rotary Lift Co., Memphis, Tenn. Containing descriptions of the method of operation of this lifting device designed for freight and passenger use serving two, three or four stories, the catalog includes architects preliminary layout data and is designed for reference filing. The manufacturer discusses four cost saving features as well as the safety feature of this oil hydraulic equipment. **(Key No. 601)**

• A liquid waterproofing compound, **Hydrozo,** is described in a circular issued by Hydrozo Products Co., 2725 Kendall Ave., Madison Wis. It is a colorless synthetic mineral gum reduced with a volatile to form a liquid. Applied by means of a brush or spray, the volatile evaporates leaving a gum which the manufacturer states is unaffected by heat or cold and provides a permanent waterproof protection. **(Key No. 255)**

(*Continued on page* 180)

TO HELP YOU get information quickly on new products we have provided the convenient form below. Just check the items of interest to you, fold as indicated and mail—No Postage Required.

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Fold down on this line

Fold up on this line and seal

Send Me further information on the following items I have checked.

- ☐ 255 Hydrozo Compound
- ☐ 525 Hydrocholin, Armour
- ☐ 564 "Sterisol Blood Bank"
- ☐ 575 "Canned Food Guide Books"
- ☐ 576 Electric Hot Plates
- ☐ 584 Multimixer
- ☐ 588 Stearns Nasalator
- ☐ 593 "The Wall of Today"
- ☐ 601 "Rotary Elevators"
- ☐ 602 "Why Rye"
- ☐ 603 "Grinnell Thermolier"
- ☐ 610 Cramer Time Relays
- ☐ 611 Fluorescent Power Unit
- ☐ 615 Blackout Paints
- ☐ 616 Blackout Shades
- ☐ 617 Blackout Candles
- ☐ 618 Plastic Flashlight
- ☐ 619 Mono-Ambulance
- ☐ 621 "H & R Mixes"
- ☐ 623 "Supplementary Treatment of Boiler Feedwater"
- ☐ 624 End-Lite Professional Kit
- ☐ 625 Nonclogging Cast Cutter
- ☐ 626 Cellulose Draperies
- ☐ 629 Anti-Anemia Capsules
- ☐ 631 "—as ONE NURSE Sees It!"
- ☐ 632 "Albee-Comper Table"
- ☐ 633 "Heinz Recipes and Menus"
- ☐ 634 Cranberry Flakes
- ☐ 635 Traction Reel
- ☐ 636 Improved Telescriber
- ☐ 637 Window Shield
- ☐ 639 Cedilanid
- ☐ 640 "Cutting the Beef Chuck"
- ☐ 644 Gas Broiler and Grill
- ☐ 645 Electroencephalograph
- ☐ 646 Sound Deadening Paint
- ☐ 650 Synkayvite, Roche
- ☐ 651 "Hospital Price List"
- ☐ 654 Eye Shield
- ☐ 655 Automatic Humidifier
- ☐ 656 Rubber Crutch Handle
- ☐ 657 Commercial Electric Range
- ☐ 659 Burows Solution Base
- ☐ 660 "How to Choose a Mattress"
- ☐ 661 "Simplified Cleaning"
- ☐ 662 Blackout Bulb

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• The "American Albee-Comper Orthopedic Table" is the title of an interesting catalog recently issued by the American Sterilizer Co., Erie, Pa. The publication is well illustrated to show the numerous applications of this equipment and full descriptive notes explain its operation. The catalog is clearly indexed for ready reference and the subjects include lower extremities, upper extremities, spinal column supine, spinal column prone, x-ray anteroposterior and x-ray lateral. Complete specifications with structural features and dimensions are included. **(Key No. 632)**

• The Grinnell Co., Providence, R. I., has issued a new catalog on **"Grinnell Thermolier"** unit heaters. Outlining the salient features of unit heating, this 54 page booklet describes how different methods can be utilized economically and efficiently. Designed to meet every installation requirement, dimensions and piping connections are given. Several pages are devoted to capacities of the various types with conversion tables and wiring diagrams. The fourteen features of the Thermolier are outlined and its use for air conditioning as well as heating is explained. **(Key No. 603)**

• The six **"Canned Food Guide Books"** issued by the Department of Home Economics, Libby, McNeill and Libby, Chicago, Ill., have recently been revised and reprinted. The books include Canned Vegetables, Canned Fruit and Fruit Juices, Pickles, Olives, Condiments, Canned Meats, Canned Salmon, and Evaporated Milk, Homogenized Baby Foods and Chopped Foods. Information includes the source and variety of the products, ingredients, uses, food values and can sizes available in each. Also included is general information on canning, can sizes, selection of products and other pertinent subjects. Copies of this series are available on request. **(Key No. 575)**

•The Physicians' Record Co., 161 W. Harrison St., Chicago, Ill., has prepared a four page leaflet entitled " . . as ONE NURSE Sees It!" This message is addressed primarily to nurses and is designed to inspire greater service during this period of national emergency. It is suggested, however, that it be distributed not only to the nursing staff but also to the medical staff, personnel and prospects for nursing service. Copies are available with or without hospital name imprinted in any quantity, the prices ranging from $1 for 100 copies without hospital name to $29.75 for 5000 copies with hospital name imprinted. **(Key No. 631)**

• **"The Wall of Today"** is a catalog of information on Veos Tile, put out by Davidson Enamel Co., Clyde, Ohio. Described as "the artistry of ancient ceramics plus the permanence of modern steel," Veos Tile is a combination of porcelain enamel on steel. The patented foundation sheet saves time and cost in installation and is water-proofed and vermin-proofed. "Before and after" photographs illustrate the improvement in rooms where this tile has been installed. Methods and suggestions, as well as architects specifications for installation in new construction and remodeling, and special shapes for various room conditions, are interesting features. **(Key No. 593)**

• An informative booklet entitled **"Supplementary Treatment of Boiler Feedwater"** has recently been issued by The Permutit Co., 330 W. 42nd St., New York, N. Y. This 12 page booklet is well illustrated with diagrams of the supplementary treatment which is fully explained in the text. This is especially designed for those in charge of high pressure plants and presents a complete discussion of the various ways in which chemicals can be fed to further condition the water after external water treatment. **(Key No. 623)**

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